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SOME time before the death of the late Sir Benjamin Brodie he published a letter against quackery. It was marked by the strong common sense and great sagacity to be found in all his writings. Amongst other points he took occasion to advert to the necessity which exists for making our diagnosis of disease as accurate as possible; and, obvious, very obvious, as the point is, it may still be questioned whether it receives all that attention at our hands to which it is entitled. For myself, I believe that quackery is much more closely connected with legitimate medicine than many of us would at first be inclined to admit. I have very rarely known the public rush, in the first instance, to quackery, but only after legitimate medicine had failed; and I consider that every single step in advance, whether in diagnosis, or other direction, is, by so much, a lessening of the domain of quackery; and that the time may with reason be looked for when this domain will be reduced to a minimum.

As to its entire extinction this can scarcely be expected; for legitimate medicine cannot, I fear, be ever made so complete as to be placed amongst the exact sciences.

These thoughts have arisen from the nature of the subject to which I would at present ask attention, which relates mainly to the diagnosis of some forms of abdominal tumours—a subject of much interest, and no little difficulty. Of the three great cavities the diseases of none present more difficulty in diagnosis than those of the abdomen. Nor would I except from this statement even tumours, or other disease of the brain. The late Dr. Bright, in his masterly monograph on abdominal tumours, has alluded to these difficulties, and fairly, as I think, attributed them to the number of the organs in the cavity, as also to their possible displacement or mal-position.

But there are other difficulties besides these which must have been experienced by all. The contents of the hollow organs—air, feces, bile, or urine—frequently cause the diagnosis to be difficult. It might be supposed that the last of these, from the fixed position of the urinary bladder, could not lead to mistake; and yet, in the last volume of the *Transactions of the Pathological Society of London* will be found the details of a case by Dr. Murchison, in which a tumour of considerable size occupied the right inguinal region, pressing on the vessels so as to cause great œdema of the limb; and as the patient, a man of sixty-eight, seemed to be sinking, and the swelling, it was thought, might be an abscess, and so cause the danger, it was tapped, when a quantity of urine was drawn off. On *post mortem* examination, it was found that the tumour was caused by a large hernial sac, if I may so speak of it, which was formed on the side of the true bladder, with which organ the tumour had a distinct but narrow opening. It is to be observed that the patient had passed urine freely. There is a good drawing given of this remarkable case showing the site the tumour occupied. The difficulties, too, in making a diagnosis, may be much increased by the presence of ascites, as can be readily understood. Indeed I believe this to be the most frequent cause of any. And lastly, the state of the abdominal walls themselves may be, and often is, a source of difficulty. Though this may arise from œdema, which will not, of course, escape our notice, it more frequently arises from fatty deposit, which is generally easy enough to recognize. But it is not always so; and the following case is a good example in point.

In the course of last year a gentleman, of thirty-six years of age, applied to me, having become alarmed about himself on account of

some lumps, as he called them, which were growing in his abdomen. On examining him as he lay on his back, five or six very distinct tumours could be felt; they were of a uniform size, that of a middle-sized but flattened apple, and arranged from above downwards on either side of the umbilicus. At first I confess I was at a loss to account for their marked regularity, thinking I had some internal tumours to contend with. But closer examination showed me they were contained in the abdominal parietes; and the matter was finally set at rest by causing the gentleman to raise himself partially, when the action of the abdominal muscles, which in this individual were well developed, showed me at once that the tumours were between the skin and the muscles, and were, in truth, nothing but fat, which here had assumed the look of disease; owing, most likely, to the anatomical construction of the muscles, and their strong development. Though this case might appear to be a very common one, I cannot call to mind another like it; for, as a general rule, this is certainly not the way in which fat is deposited in the abdominal parietes.

Were it even possible, it is anything but my intention to enter generally into the subject of abdominal tumours. The question is one of great extent; and each organ requires—as has, indeed, been done in Dr. Bright's valuable memoir—a separate consideration for itself. So, on the present occasion, my remarks will be confined to a single affection giving rise to abdominal swelling, and one which seems to me not to have received all the attention it merits, even in the memoir to which allusion has been made. Before speaking of it, however, I would say a few words on a means of diagnosis which, when present, affords often a valuable aid; and I am not aware that any writer has noticed it: I mean the mobility of abdominal tumours as caused by the act of respiration. All are aware that some of these tumours can, by the pressure of the hand, be moved about. But it is the movement caused by inspiration of which I speak. The first occasion on which I noticed this occurred some years since, in the lifetime of the late Surgeon Neville. He had asked me to see a man who had a tumour in the epigastric region, of the nature of which he was doubtful. The question lay between a malignant tumour in the stomach and aneurism of the aorta. As the patient lay on his back, I thought I observed the tumour moving; and on closer scrutiny there could be no doubt of the matter, nor that it was due to the act of inspiration; and it at once struck me that it was a means by which a correct diagnosis might

be made; for it was obvious that if the tumour were an aneurism no movement of respiration could affect it; but if it were in the stomach this might occur. Acting on this, the diagnosis of a tumour of the stomach was made, and the result confirmed the truth of this idea, for, when the man died, some months later, malignant disease of the stomach was found. It is worth noting, that, between the time of my first seeing this man and his death, the tumour lessened materially; and this seemed due to the great and, possibly, rapid ulceration which had occurred in the diseased mass. Since this case came under my notice I have had many opportunities of confirming the point. It is quite obvious that its value is confined, in a measure, to the upper third of the abdomen, the depression of the diaphragm being its cause; and it can only affect an organ which admits of some mobility, as the stomach and transverse colon. But the opposite of this may also be of use to us to know; for a tumour not affected by the act of inspiration must then belong to one of the parts which are fixed, as, for instance, aneurism of the aorta. Since I observed this sign it has not fallen to my lot to meet a case of abscess of the liver coming forwards. But there is little doubt that in such a case, and with a swelling perceptible, the act of inspiration would cause the tumour to move; and that if adhesions formed between the tumour and the parietes this sign would then cease—a point of no little consequence to determine, as bearing directly on the treatment.^a It may be observed, in passing, that the degree to which movement can be given to the parts close to the diaphragm varies considerably with the individual. Those who have the chest long, from above downwards, are able to depress the diaphragm, and necessarily the neighbouring organs, much more than others. This, indeed, is only what we should expect from the varying capacity of the chest in different persons. But it is curious to what an extent it exists; and in exact proportion with this will be the intensity of the sign to which attention is now called.

^a Since writing this I have recalled to mind a case so remarkable as to be worth noting here. It will be found in the *Medical Times and Gazette* for 5th March, 1859, and was that of a man who presented a movable and markedly pulsating tumour in the epigastrium. This seems to have led to the idea that the tumour was literally a movable aneurism, and is so stated. On *post mortem* examination a mass of disease, which seems to have been strumous, was found in the liver; and to this, which had been observed to be moved by the act of inspiration, was communicated an impulse from an aneurism behind it; for this disease also existed in this remarkable case.

It is not to be understood, however, that the sign is entirely limited to the upper part of the abdomen. It may be well marked in the middle third, of which I have seen different examples. In one of these, a boy of fifteen, whom I had in Dun's Hospital for some time, a tumour, the size of a small apple, lay on the left side, between the floating ribs and the umbilicus, but nearer the latter. As the boy lay on his back, the tumour was quite visible, and could, of course, be felt; and, on making him inspire, it glided downwards one inch and a-half, and then rose again on expiration. Several gentlemen, including Drs. Law, Hudson, Moore, A. Smith, and Walshe, saw this boy; but, after the closest examination, no diagnosis approaching certainty was arrived at. The spleen was known to be enlarged; and it is a curious fact, and worth noting, that when the boy came into hospital the veins of the abdominal walls were much enlarged, but subsequently lessened so much as to be barely visible. My own impression of the nature of the tumour was, that it was a portion of indurated omentum, very probably the result of strumous disease. I had seen a similar case, some years before, with Dr. Cuthbertson, excepting that the tumour in this last case occupied the right side of the abdomen. Here it was only a *post mortem* examination cleared up the obscurity which hung over the diagnosis during life.

In reference to the distance to which the act of inspiration may affect abdominal tumours, I should say I saw one instance where a tumour which had reached the right iliac fossa was so moved. The case was one of malignant disease, which commenced above—I think in the liver—and grew with extraordinary rapidity till it reached low down on the right side. Here I could feel distinct movement when the patient made a deep inspiration. The explanation of this would, I think, be, that it was the movement of the liver above which was communicated downwards; and that, had the mass grown from below, the great probability is that no effort of the breathing would have affected it. At any rate, the fact that the respiration is capable of affecting movable tumours in the upper and middle thirds of the abdomen, and may even reach lower than this, is, I think, worthy of notice in reference to diseases of the ovaries, where it may be the means of arriving at a diagnosis as to the presence or not of adhesions, which, I should suppose, it would, at times, be of great consequence to know.

The affection to which I would now ask attention is dilatation of the colon—not the simple, and what may be called transient, state,

and which it may be supposed exists, more or less, in all cases of constipation, but that state of the bowel in which the dilatation is permanent, and from which it is very doubtful whether recovery ever takes place. The affection is obviously one analogous to what occurs in the other hollow viscera, as the heart, stomach, gall, and urinary bladders; and, though the natural and healthy functions of the colon might seem, as it were, to lead to dilatation, still this state is, in my experience, rare. Neither is its diagnosis as simple as might at first be thought. Indeed, mistakes, I know, may occur; other diseases may be mistaken for this one, or this state of the colon for others. An example or two may not be out of place:—

CASE I.—A girl, of nine years of age, was admitted into hospital, labouring under considerable swelling of the abdomen. On examination a number of masses could be felt through the parietes. They were very movable, conveyed the idea of being so soft as to take the impression of the fingers, and were shaped just like coils of intestine. The general impression was, that the case was one of dilated bowel, filled with feces. It should be stated that the child had considerable fever. She wasted rapidly; and, as she did so, the tumours became the more marked, and were even visible to the eye. On *post mortem* examination a very considerable portion of the intestine, chiefly the smaller one, was found infiltrated with a lardaceous material, evidently of a malignant nature. It was so placed as to thicken the walls of the intestine, in some parts to the extent of half an inch, and thus lessen its calibre. The material was softish, and retained the impression of the finger. The case is, as far as my experience goes, unique.

CASE II.—A maiden lady, middle aged, and of a spare habit of body, began to get large in the abdomen. It was so very gradual as to be almost imperceptible, and but little inconvenience was felt. There was a tendency to constipation, which, however, yielded to purgatives; but the size of the abdomen was not reduced after their action. The patient died, and the whole colon was found enormously dilated, and full of feces, the sigmoid flexure alone being four feet long and two feet in circumference. There was no stricture of any kind. This case has been given because the preparation has been preserved, and may be seen in our College of Surgeons; and, in the printed account of it, it is significantly added:—"The nature of the affection was not guessed at during life."

CASE III.—It is now more than six years since I was asked to see a lady on account of swelling of the abdomen. She was unmarried, upwards of fifty years of age, and of a spare habit of body. The lower extremities pitted on pressure, and she could walk but feebly. Though occasionally in the habit of taking aperient pills, there was no marked constipation. The swelling came on so imperceptibly that she could not say when it first began. It was quite obvious it increased at the slowest possible rate. Her appetite was fair; but she was, and had been, subject at times to fits of low spirits. When seen in bed the abdomen was found to be much swollen, and the swelling gave the idea of great solidity; and percussion confirmed this, for there was very little tympany. The veins over the surface were visible, but there was no marked enlargement, neither was there any fluctuation.

My first impression of this case was that the tumour was ovarian. But closer examination led me to doubt this; for I found that the mass was made up of five or six smaller masses; and that some of these could be moved in a very slight degree, not, however, from the act of inspiration, for I believe the abdomen was too full to allow of this, but by pressure from the hand. The greater masses, I should say, lay on either side of the umbilicus, the longer axis being from above downwards. It is sufficient to add of this case, that after I had seen it three or four times, and having also in mind the case already given, of which the specimen is in the College of Surgeons, I came to the conclusion that it was one of dilated colon, and subsequent events have, I think, confirmed this opinion. For though the lady is, and, I suspect now, will be a confirmed invalid, she has yet been materially improved by treatment. The abdomen was considerably reduced; and as it became so, the tumours divided, if I may so speak, so that what was a single one this month, became two the next. She was able to take considerable walks, and otherwise could enjoy life. I only now see her at long intervals, as she is able to manage herself. But at the present time I believe she is as well as her disease can allow of. The treatment adopted consisted mainly in courses of tonic purgative pills, given for twelve or fifteen days at a time, and then stopped. No medicine in the fluid form either agreed with her, or indeed was of any use. Circumstances prevented my carrying out all the measures which might prove of use in a case of this nature. Her greatest inconvenience, I should state, does not arise from her size, but from the weak state of her limbs, and the inability of walking. She is worse, too, at

certain times than at others; and then there is usually considerable pitting of the lower extremities. From first to last there has been nothing of what might be called constipation, but more a sluggish action of the bowels.^a

Within the last eight months another instance of this affection came under my notice. It occurred in a man of sixty-eight, who came to me under the idea that he was getting dropsical. An examination, however, satisfied me that the swelling, which was dull on percussion, and had no fluctuation, was due to dilated colon; and in about three weeks treatment relieved him, at least for the time. There is every probability, however, that the state will return—the more so when we recollect his time of life. The case, however, calls for no further notice here.

But all cases of this affection do not present themselves to our notice under the same uncomplicated form. Other states and diseases may be superadded; of which the following is a good example:—

CASE V.—A married woman, about thirty years of age, was sent into Sir Patrick Dun's Hospital, by Dr. Leney, of Bray. She laboured under an affection of the heart, and had slight œdema of the lower extremities. She thought herself dropsical, even in the body; and when seen in bed the abdomen was found to be very full; but neither Dr. Aquila Smith, who saw this case, nor I, could detect fluctuation. The examination, however, did detect a number of tumours floating about, as it were, in the abdomen; for they were very movable. None were larger than an orange, and they ranged from that down to the size of a walnut. On inquiry, the patient stated that for upwards of a year the bowels had been getting irregular, but that otherwise she did not feel out of health. When, however, the pitting about the ankles came on, joined to the disease of the heart, as known to Dr. Leney, it was then thought

^a After this paper was read, Dr. M. Eustace stated the following very apposite case:—A lady, aged twenty-eight, unmarried, got the habit of taking opium for pains in the abdomen. After some time the abdomen began to enlarge; and subsequently the lower limbs became weakened to such a degree that the patient was obliged to use crutches. In this state she came under the care of Dr. Eustace, who, from a very careful examination, concluded that no organic disease—for this had been suspected—existed in the abdomen, but that the swelling was due to fecal accumulation. Acting on this idea, she was treated by aperients, &c., whilst the use of opium was gradually discontinued. Under this plan the abdomen got smaller and smaller; and in the same proportion the lady recovered the use of her limbs, and was finally quite restored to health. She had been using the crutches for seven months.

advisable to send her in to Dublin. She was treated under the idea that the swelling of the abdomen was due to an enlarged and sacculated colon; the tumours being collections of feces, and there being also air in much greater quantity than is usual in this class of cases. At the end of three weeks all the movable tumours had disappeared, and the abdomen had lessened in proportion. Still there remained more of fulness in the hypogastric region than was natural; and though the patient denied all possibility of being pregnant—and this had been asked her on her first admission to hospital—it still turned out that she was so, as proved by the stethoscope. She ultimately left hospital as well as a woman in her state could, for the heart disease was unequivocal.

But cases may be very like the one just given, and yet not be identical. Shortly after this, my friend Dr. M'Clintock showed me a case where two or three tumours, the size of an apple, and very movable, could be felt in the abdomen. The patient was a woman of forty-two, and had been married but two years previously. The tumours lay on either side of the abdomen, and would be referred to the lower part of each kidney. Dr. M'Clintock's opinion was, that the tumours were malignant, whilst my own was that they were due to a sacculated colon; and under this idea she was sent to Sir P. Dun's Hospital, to see what a course of treatment might effect. She remained, however, but a fortnight, being anxious to return to her home. It is enough to say, that she did not get better whilst in hospital, and that, after many months, Dr. M'Clintock's opinion was proved to be correct, for she died of malignant disease, involving nearly the entire abdomen. Of this case I shall only add that, to the present time I am at a loss to say where the disease could have commenced. For I can scarcely imagine that the tumours first discovered were the ovaries. They seemed to me to be too movable, and at too great a distance from the usual sites of these bodies. This is, however, a matter for discussion.

There is one feature in the history of the affection of which I have been speaking which calls for notice here. As a general rule the bowels are sluggish, but not at all to the degree that we might expect. On the contrary, they may act regularly; and this is very likely, indeed, to lead us astray, and calls for the greater caution. So far, however, from there being constipation, or a tendency to it, there may be the very opposite, and diarrhea may exist. One such instance I have known; it was exhibited by the late Dr. Mayne before our Pathological Society. In this instance the diarrhea

terminated life, and the entire length of the colon was enormously distended. There was no ulceration, nor stricture of any kind.*

The diagnosis of dilated colon is not by any means the simple matter it might seem; and I believe it to be but common prudence to withhold our opinion till we are able to make successive observations on the case. Some, no doubt, are so very plain that the diagnosis may be made at once; but it may, I think, be stated with certainty, that the great majority are not so. In the case of the lady already given, she was seen, but once only, by the late Sir Henry Marsh, and he told me plainly that he could not make up his mind on the case; and in this I think he showed his great good sense.

On what, then, is the diagnosis to rest? I can only answer this in general terms. In the first place there are usually more tumours to be felt than is common where organic disease exists, whether malignant or otherwise. For though I have given a case where malignant disease, and in a comparatively early stage, existed in two distinct regions, it will still, I think, be allowed that this is exceptional, and therefore not generally to guide us. On the other hand, a single tumour may exist, and yet be due to nothing more than a portion of the colon dilated, and filled with feces. I have met no unequivocal case of this kind myself, but there are two—if I recollect right—in Bright's able monograph. Still, these are all exceptional cases. As regards the site of the tumours, in cases of dilated colon, something to assist our diagnosis may be gained. Thus they are commonly situated so as to occupy the middle third of the abdomen; and when they occupy, as they often do, both sides of the cavity, there are good grounds for supposing it is a dilated colon with which we have to deal.

But, probably, one of the most characteristic signs of this state is the way in which the tumours are impressed, as it were, with a

* Dr. Robert Smith has directed my attention to another case, exhibited by Professor Banks, and in which the termination was different from anything yet described. The patient, a man of fifty, was admitted labouring under sickness of stomach, and obstinate constipation. He had similar attacks before, but not so severe as the present one. There was very little constitutional disturbance at any time, and the abdomen, though much swollen and tympanitic, was not painful on pressure. More than two days elapsed before the constipation was overcome; but though the relief seemed to be complete at the moment, collapse and death followed on the third day from his admission. On examination, the disease was confined exclusively to the sigmoid flexure of the colon, which was of a greenish hue, and enormously distended—measuring two feet in circumference. There was no recent peritonitis, nor sign of stricture, or alteration in structure of any kind.

certain amount of movement—I mean in themselves. This can, of course, only be observed when we can make repeated observations at certain intervals. When this is done it will often be seen that the tumours have altered their position; slightly, it is true, but still so as to leave no doubt on the point. There is every reason to set this down to a very slow peristaltic action of the bowel. With it, too, will occasionally be observed a certain degree of lessening of some of the tumours; and, in the last place, it may occur that the character of the discharges from the bowels, as regards their size, may assist the diagnosis. It might be supposed that this would be of common occurrence. It is quite the reverse; for weeks and months may elapse and yet no characteristic discharges occur.

Such, then, are the signs which may lead us to a correct diagnosis:—The number of tumours—their site—their movements—their alteration in size—and, occasionally, the character of the evacuations.

Into the symptoms caused by this state of the colon it is not my intention to enter here, farther than to say they are, or may be, all those which arise from constipation in general, and, in addition, the increased size of the abdomen. The patients are very liable to attacks of pain like colic; and the two extremes of constipation and diarrhea, of which examples have been already given, may likewise occur. It seems scarcely necessary to add that our treatment must be pointless and ineffective if the state with which we have to contend be not thoroughly understood. Much caution, too, is required as regards our prognosis. With our present experience we have no grounds for supposing that the disease, if once fully formed, is curable. But that it can be alleviated is certain; and the extent to which this may succeed must depend on the circumstances of each case. The age of the patient, duration of the disease, length of intestine involved, temperament, &c., will all have an influence on the result. What, then, is the line of treatment to be adopted? Courses of purgative medicines, suited to the requirements of each case, given at stated intervals, and then omitted for the time, must be our sheet anchors. It is most important, too, that these medicines should be used with the least injury to the system at large. Hence the value of combining tonics with aperients; and of the former I have found none more efficacious than the preparations of the *nux vomica*. The common extract of this drug, in union with the compound colocynth pill, or the former with the mass lately introduced in the *British Pharmacopœia*—the

compound pill of colocynth with hyosciamus—make good combinations. Every one, however, will have his own favourites. The doses should not be large, but small, and frequently repeated—at least twice a day; and, except under some peculiar circumstances, pills are much superior to the fluid medicines. Injections, too, are at times useful; but it is very strange what little comparative effect they have.

The best directed medicines will, however, cause little good results unless they be combined with other means. The diet should be regulated so as to be the opposite of what is called a dry diet; and with this a system of frictions to the abdomen should be perseveringly carried out; and also bandaging, so as to give a steady support to the parts, should be enjoined. As a means of improving the tone of the muscular coat of the intestines electricity has been recommended, and in suitable cases would, no doubt, be of benefit; as would also all those measures which have a tendency to improve and invigorate the constitution. But these points are so obvious that they do not call for any further notice here.

ART. II.—*On the Induction of Premature Labour in the Sickness and Vomiting of Pregnancy, with Cases.* By S. L. HARDY, M.D., F.R.C.S.I., Physician, Accoucheur to, and Lecturer on Midwifery and Diseases of Women and Children, Steevens' Hospital; Physician to the Institution for Diseases of Children, Pitt-street, &c.

VOMITING, one of the most usual accompaniments of pregnancy, and considered so beneficial when within certain limits, occasionally becomes so violent, long-continued, and prostrating, as to endanger the safety of both mother and child.

Some cases of this nature yield to treatment—others, to a certain extent, are so far manageable as to enable the patient to complete her full term of utero-gestation—whilst a third class are so violent and uncontrollable as to require the induction of premature labour to rescue the unfortunate sufferer from a wretched and certain death.

Two cases lately came under my notice of very severe vomiting during pregnancy. One in private, the other in hospital practice. In the first premature labour was spontaneous; in the second it was induced. Both patients were saved.

CASE I.—On the 14th of February last I was called to visit a lady, who expected her confinement about the 12th of March. She was extremely delicate—nearly the only member of her family who had not fallen a victim to consumption. She had given birth to several children, who were so feeble that but few survived. She had taken a carriage drive but two days previous to my seeing her, which was followed by violent spasms of the uterus. Several days passed before this attack subsided. Diarrhea and vomiting then set in. The former was amenable to treatment, but the latter was so violent and frequent that the strength rapidly gave way. Every means of treatment failed to afford more than temporary relief; and in addition to vomiting, the secretion of fetid gas in the stomach was most distressing.

The patient now became most desponding, and so reduced in strength and flesh, that great fears were entertained for her safety, and a question arose as to the course best to adopt in respect to her confinement.

On the 26th of February a consultation was arranged to be held, but at 4 o'clock, a.m., pains set in; labour proceeded without sickness of stomach or any untoward symptom, and at 5.25 a.m., a female child was born (seemingly about three weeks premature). The placenta came off a few minutes after, and the uterus remained well contracted; and when Dr. Churchill met me at 12 o'clock (by appointment, on the previous day) we found mother and child doing well.

From this until the 10th day the recovery progressed so favourably that the relatives of the patient, supposing all danger gone, informed her of some household arrangements, which had the effect of exciting her so that when I was sent for at 11, p.m., she was highly maniacal. The nurse-tender (a remarkably good one) she supposed was going to poison her. The pulse was very little above the natural standard, but her countenance depicted extreme terror and distress. Under the soothing influences of removing the nurse-tender from taking charge of her, and a large opiate, she had a good night's sleep, and was quite herself next day. Nothing whatever again occurred of maniacal symptoms throughout her convalescence; but there was extreme nervousness, which a look or word was sufficient to call forth into the greatest agitation—she then trembled violently, and became bathed in perspiration. This gradually subsided, and she was able to drive out, having got safely through all the dangers of her pregnancy and confinement.

However, the disease of which she seemed so likely to be the

victim at last began to develop itself. There was no cough, but a steady falling of strength, perspirations, loss of appetite, and occasional diarrhea.

Percussion over the upper part of the left lung gave a dull sound, and at length the symptoms of phthisis rapidly appeared, the lung becoming throughout affected until her death.

CASE II.—In March last a woman, aged twenty-two, was admitted into Steevens' Hospital. She stated herself between six and seven months gone in her first pregnancy. In the early months there was no nausea or sickness, but during the last month she had suffered extremely from violent vomiting, with constipation. The very emaciated appearance she presented caused doubts to be raised as to her condition; which were set at rest by the distinctly audible sounds of the fetal heart.

Burning in the epigastrium, with great thirst, were very distressing, and sickness, more or less troublesome, until the 30th of March, when, at 6 o'clock, a.m., dark fluid was ejected, with blood, in large quantity, and the burning sensation became intolerable. The fetal heart's sounds were weak and slow. Under the repeated administration of morphia and creosote some ease was procured, with a little rest in sleep. On the 31st her pulse, which on the previous day was extremely weak, had improved; but her condition was very uncomfortable, and she felt low and desponding. The fetal heart was inaudible, and the globular shape of the uterus could be distinctly perceived, by the hand, when passed over the abdomen. There had been no vomiting from 6 o'clock this morning.

I ruptured the membranes at 10.30, a.m., the head presenting. Uterine pains set in at 4.30 o'clock, p.m.; vomiting returned at 6, p.m., and so reduced the strength that it was necessary to deliver immediately, which Dr. Tynar, resident surgeon to the hospital, accomplished. The child, a female, appeared to have been a short time dead. After recovering from the shock of delivery, under the liberal use of brandy, opium, &c., she improved considerably during the night. Next morning some dark fluid was vomited, but not of the character of what had been previous to delivery. The stomach then gradually received and retained mild nourishment. On the third day there was diarrhea, which was easily restrained. Until the sixth day pain in the cardiac region, with a troublesome cough, distressed her. She then progressed

most favourably, and left hospital, recovered, on the 12th of April. Three weeks afterwards she presented herself, and had become so fat and improved in appearance that some did not, at first, recognize her.

Sickness of stomach, in the early months, was absent in both these cases; neither of the patients having complained of anything until far advanced in pregnancy. Dr. Ramsbottom remarks that when vomiting is entirely absent utero-gestation does not proceed with its usual regularity and activity. The vomiting of early pregnancy has been adduced, by Sir H. Marsh, as illustrating the nature of transmitted affections of the stomach. "No evidence of the transmission of disease" he says, "can be more convincing than that which is derived from the early stage of pregnancy. It illustrates, first, the true nature of transmitted disease; secondly, the either total or almost total absence of indications derivable from the real source and origin of the transmitted malady. That which strikes one as most wonderful is the fact that at an unexpected moment, the position and condition of the uterus being changed, all the suffering is terminated."^a Those remarks, though made as to the changes which take place in the early months of pregnancy, may be applied also to the present case. The vomiting, which persisted notwithstanding every effort to restrain it, ceased immediately on the condition of the uterus being altered by delivery.

Irritability of stomach is observed in several affections of the uterus besides during pregnancy; the treatment being sometimes, by mistake, directed to the stomach instead of to the proper seat of the malady. This is known in the case of polypi. I lately removed a small polypus from the uterus of a patient who had been previously under treatment for eighteen months. Attention was altogether directed to the stomach as the seat of the malady. The removal of the polypus, which was effected by torsion, was followed, for two days, by aggravation of all the symptoms; they then entirely subsided.

Sir H. Marsh met with a case of nausea and vomiting so severe that life was despaired of. "The countenance was ghastly, the prostration death-like; disease of the uterus was discovered; the uterine treatment was successful."^b

Dark vomit—or, as it usually is called, coffee-ground—in midwifery practice is considered indicative of serious derangement, or

^a Sir H. Marsh's Transmitted Affections of the Stomach.

^b Observations on Transmitted Disease.

of grave injury to some internal organ. In rupture of the uterus, for instance, it forms a prominent symptom. It was present in Case II. When the patient mentioned having vomited blood before her admission, it was supposed this was owing to the violence with which the contents of the stomach were ejected. However, she made the same remark when in hospital. I never, on any former occasion, saw so large a quantity of this peculiar fluid expelled. In four hours two very large chamber utensils were filled with it. That the danger it indicated was extreme there could have been no doubt, judging alone from the distress, prostration, and agony of the patient. The effect of such a secretion, drawn from the system so largely, was in itself alarming, when, according to the analysis of Dr. Moore, in his examination of coffee-ground vomit, we find it to consist *chiefly of blood*, mixed with epithelium.

In deciding upon the necessity of inducing premature labour, the urgency of the symptoms must be fully considered, so as not to fall into the error of either unnecessary haste or of culpable delay.

A glance at the foregoing case (No. 2) is sufficient to show that in every particular the symptoms were extremely severe. They were numerous, and may be said to fully come up to the signs which, according to M. Dubois, indicate the proper period for resorting to the induction of premature labour.

He states those signs as:—1. Almost incessant vomiting, by which all alimentary substances, and sometimes the smallest drop of water, are rejected. 2. Wasting and debility, which condemns the patient to absolute rest. 3. Syncope, brought on by the least movement, or mental emotion. 4. A marked change in the features. 5. Severe and continuous febrile action. 6. An excessive and penetrating acidity of the breath. 7. The failure of all other means.^a

Dr. Murphy,^b in his observations on this subject, well remarks:—“In four cases of excessive vomiting, followed by exhaustion, *three* were lost through hesitation and delay, and *one* was saved by promptitude in inducing miscarriage.”

Dr. Churchill^c mentions a case where, after giving several doses of ergot, and passing a bougie into the uterus, it was four days before the ovum was expelled, and the patient was reduced to a most alarming state of exhaustion.

^a Gazette Medicale, No. 23.

^b Murphy's Midwifery. Second Edition, p. 94.

^c Churchill on Diseases of Women. Fifth Edition, p. 630.

In Case I. the spontaneous coming on of labour was most fortunate, as the patient's state was so alarming that I believe the induction of labour would have been considered imperatively necessary to save her life.

The maniacal attack in this case, where the strength was so reduced by suffering, was a cause of some anxiety; but, coming on at so late a period as the tenth day, and the pulse being so little disturbed, hopes were entertained that it would subside, as it did after refreshing sleep, induced by opium.

It has been remarked that extensive tubercular disease of the lungs has sometimes prevented sea sickness in persons who when in health had suffered severely from it. In pregnancy one of the worst cases of sickness I have seen was in a consumptive patient. She, like the one of Case I., was nearly the only member of her family who had not been carried off by it. It was her first pregnancy. She suffered so very much from sickness and vomiting that the induction of labour was in contemplation, but her spontaneous delivery removed the necessity for resorting to this course of treatment. Some months after she died of rapid phthisis.

In the treatment of vomiting, whether of pregnancy or arising from other circumstances, the attitude of the patient is a matter of much importance. M. Beau considers the horizontal position as one of the causes of bilious vomiting, and in his treatment of such cases makes his patients sit upright, with the head and shoulders as much elevated as possible.^a The horizontal is that preferred in the vomiting of pregnancy, and it is also found of very great benefit, when judiciously adopted, in preventing sea sickness. With the latter object in view this position should be taken before the sailing of the vessel.

Of external remedies ice is one very grateful to patients. It may be enclosed in a bladder, or a piece of it placed in the cup of a sponge, may be as frequently applied over the epigastrium as the disposition to sickness arises. In a case, lately under my care, of violent pain in the stomach and vomiting (not arising from pregnancy), ice used in this way, and given with infusion of mint internally, quieted the attack after the failing of other remedies. It is very pleasant and beneficial when given in coffee.

Creosote and morphia, in combination, internally, are frequently serviceable. They answered remarkably well in Case II., when all

^a *Gaz. des Hôp.—Med. Press*, April 27, 1864.

other means had proved unavailing in affording relief from the incessant vomiting, violent straining, and intolerable sensation of burning complained of in the epigastrium; also in procuring several hours' rest in sleep.

Dr. Simpson found the inhalation of laudanum to quiet the severe sickness and vomiting of a pregnant lady, and to procure sleep, after that ice, prussic acid, and other remedies had failed. He recommends oxalate of cerium in various forms of obstinate vomiting. I have frequently given it in such cases with decided advantage, alone or combined with sedatives, such as prussic acid, &c.

Where the strength has been so greatly reduced by sickness and vomiting, extreme caution should be observed as regards diet and the use of aperients after delivery, until the constitutional vigour has become somewhat restored, and the stomach be capable of receiving and digesting suitable food. This precaution was particularly necessary in the foregoing cases.

In Case II. the patient eagerly desired chicken, which she took in preference to any other kind of food. It was given in very small quantity. Broth she disliked. Wine was given, diluted, and little at each time. Aperients were withheld, fearing their effect upon her when so weak, fortunately, as the attack she had of diarrhea exhausted her strength very considerably.

Before delivery had come on in Case I., for some days, when nutriment could not be retained by the stomach, it was thrown into the rectum in very large quantities, and with very decided advantage. This was more easily accomplished after morphia or opium, in any form, had been given, either to procure rest in sleep or to restrain diarrhea.

After delivery, wine was nearly the only thing the stomach could receive for the first two or three days. Champagne and Sparkling Moselle, iced, were particularly grateful.

To enumerate the many and various remedies, both in diets and medicines—together with the numerous external applications which have been resorted to in the sickness and vomiting of pregnancy—would, in itself, testify how very intractable many of those cases are, whilst it would the more enhance the value of a method which, when *timely* and *judiciously* resorted to, has the so very immediate effect of not only rescuing the patient from pain, wretchedness, and, it may be, even death itself, but of restoring a constitution, otherwise healthy, to the proper performance of its wonted functions.

ART. III.—*Brief Considerations respecting the Weights and Measures and the Nomenclature of the Pharmacopæia.*—By T. W. BELCHER, M.A., M.D., T.C.D., Fellow of the King and Queen's College of Physicians in Ireland.

As the *British Pharmacopæia* is now an accomplished fact, and as its enactments, whether liked or not, are binding on the profession, I propose to make a few observations on the use of it by the prescriber, having reference to its technical nomenclature, but chiefly adverting to its weights and measures. This I shall endeavour to do in the spirit of a lover of law and order.

The measures remain as heretofore, and therefore the prescriber in this respect acts as he did since 1851.

To the Irish prescriber the weights are, for all practical purposes, as before. In the last *Dublin Pharmacopæia* the following scale is used, the grain being the avoirdupois grain:—

℔. One pound	=	16 ounces	=	7·000 grains.
℥i One ounce	=	8 drachms	=	437·5 grains.
ʒi One drachm	=	3 scruples	=	54·68 grains.
ʒi One scruple	=		=	18·22 grains.

From the ounce downwards this differed from the commercial avoirdupois weight, as seen by the following comparison:—

<i>Dublin Pharmacopæia.</i>	Commercial Avoirdupois.
℥i=8 Drachms=437·5 grains.	1 oz.=16 Drachms= 437·5 grains.
ʒi=3 Scruples=54·68 grains.	1 dr.= 27·3125 grains.

From this it is clear that those who were in the habit of prescribing the drachms and scruples of the last *Dublin Pharmacopæia* can continue to do so if they will; for beside the fact that such weights are in actual use, there is also the other fact that the use of them in no wise alters anything *enacted* in the *Pharmacopæia*. In the preface, the prescriber and dispenser are “recommended” to discontinue the use of them; just as apothecaries are “warned” to “duly alter or destroy *all* pharmaceutical preparations made according to previous and now altered formulæ.” Except so far as convenience or discretion may urge persons to adopt this recommendation, or to take heed to the warning, I imagine few will concede to them

(what, indeed, is not claimed) the legal force of the *Pharmacopœia* itself, any more than its compilers would comply with the recommendation or warning of some of their professional brethren to share with them the funds absorbed in its manufacture. It must be allowed that the reason given in the preface for recommending the discontinuance of the scruple and drachm weights is not a fair one:—"Since they can no longer exist as both simple multiples of the latter and integral parts of the former." For the very same reason should the use of the ounce be discontinued; as it is plain 437·5 grains cannot be divided into integral parts, any more than 54·68 or 18·22 grains. For example, the grain is now 2·857ths of an ounce; 10 grains is 1·43 $\frac{3}{4}$ th of an ounce; 20 grains=1·21 $\frac{7}{8}$ th; and 60 grains=1·7 $\frac{7}{24}$ th of an ounce. Others may be thus set down:—

$$\left. \begin{array}{l} \frac{1}{2} \text{ ounce} = 218\frac{3}{4} \\ \frac{1}{4} \text{ ,,} = 109\frac{3}{8} \\ \frac{1}{8} \text{ ,,} = 54\frac{63}{100} \end{array} \right\} \text{Grains.}^a$$

In the second part of the *Pharmacopœia* the $\frac{1}{2}$ ounce is frequently used, and how the 218 $\frac{3}{4}$ grains can be defended as forming a separate weight, while 54·68 and 18·22 are excluded, is not easy to see. The use of large numbers in grains is also likely to cause no small confusion both in idea and in calculation; take the two following, opened on at random. In the preparation of the green iodide of mercury, the chemist is directed to take of "iodine two hundred and seventy-eight grains." Now, unless he has a bag full of grain weights at hand, and has plenty of time to tell them out one by one, he must resort to a calculation to find what part of an ounce 278 grains is. The *Pharmacopœia* presumes the existence of a half-ounce weight equal to so many grains *and* so many decimal parts of a grain. Let him use this as part of the 278 grains; what, then, is he to do with the decimals when he comes to complete the required number? Also, in the preparation of bismuth lozenges the direction is, "Take of white bismuth 1,440 grains." How is this to be readily got at with only three numbers, 1, 437·5, and 7,000 grains? Much, though not all, of this difficulty will doubtless be got rid of by using weights of multiples of ten.

The confusion set before a student under examination as to a

^a These numbers are not imaginary; with some others in this paper, they are taken from the most able and friendly review of the *Pharmacopœia* which has yet appeared—that in the *Edinburgh Medical and Surgical Journal* for Feb. 1864.

comparison between the weights and measures, may be instanced in the following questions and answers:—

Materia Medica Examiner.—How many grains of opium are in a fluid ounce of the tincture? *Student.*—32·8125 grains.

Question.—How many in a fluid drachm? *Ans.*—4·10156.

It is plain that every practitioner should know the strength of tincture of opium, so that this is not a theoretical, but a practical case. For myself, I use the large numbers of grains as recommended in the Preface, because we all, heretofore, calculated doses in grains, and then rendered them into the condemned weights by a process of mental arithmetic. This has the disadvantages already referred to, but it has the advantages of promoting order and uniformity, and facilitating our use of the grain system in other branches of science. Obviously, the prescriber need not trouble himself about a decimal part of a grain, when the fraction is very small, *he* may ignore it in practice, but the student, or pharmacist, should be quite *au fait* in the chapter on decimals in Galbraith and Haughton's Arithmetic.

A few remarks may be made on nomenclature and on the symbols of weights and measures.

It is perfectly open to any prescriber to write prescriptions in the vernacular. The English name of a drug is *now*, for the first time, throughout the kingdom of equal authority with the Latin;^a and, where any error is likely to arise from using Latin, plain English is undoubtedly the better of the two. When we recollect that any ignorant person may, and many actually do, compound prescriptions in Great Britain, it is plain that the probability of error is not at all inconsiderable; indeed *security* can only arise from the prescriber's personal knowledge of the ability of the compounder. In our own country, however, as we have the apothecary possessing a monopoly of compounding, and as he is educated and legally qualified for the purpose, the danger of error is not by any means so great as among our friends across the water.

A good many among us adopt the *via media*, and write the prescriptions in Latin, while they give the directions for use in English. I think this medical hotch-potch, as a general practice, is unworthy of our profession. With many of undoubted ability and

^a It is true that in the Preface we are told, with reference to each drug, of "a Latin pharmaceutic name by which it may be prescribed." Yet this part of the book is not contained in the Pharmacopœia, which alone is legally binding; and in the latter, as above observed, the English and Latin terms are of equal authority.

education it is pursued deliberately to avoid error; and, in one case of a very able medical friend, to impress the directions on the friends of the patient with whom the prescription is left. In many others it is the result of ignorance; a large number could not, if they would, express their directions in Latin, while a still larger number conceal the weakness of their Latinity under the abbreviations in common use. They would find it an impossible task to write a prescription in full; and the best attempt they could make at a Latin direction would be something like the "*faciolo squarum*" of the fellowship candidate under mathematical examination at T.C.D.

Respecting the signatures to prescriptions, it is not generally known that the following piece of legislation is still in force in Ireland. By the Irish Act of the 1st year of George III, cap. xiv—commonly called Lucas' Act, and made perpetual by 30 George III., c. xlv, sec. 11—it is provided in sec. 20:—"And be it further enacted, by the authority aforesaid, That all and every physician, chirurgeon, or other person or persons, taking upon him or them to prescribe medicines, whether for internal or external use or application for the health of man's body, shall subscribe every such prescription with his name or surname, or the initial letters of his name and surname, and with those also of his profession, whether physician or chirurgeon, and, if a physician, with the name or the initial letter of the name of the university or universities of which he is a doctor or other graduate in physick, under the penalty of forty shillings for every omission, *unless he be a member of the Royal College of Physicians,*^a in which case the initial letters of his name alone may be sufficient."

By sec. 23, "all the penalties inflicted by this act may be sued for and recovered, in a summary way, before the Lord Mayor and Recorder of the city of Dublin, or the Mayor, or other chief magistrate, and Recorder of any other city or town corporate, where such offences are or shall be committed." One moiety to be applied "for the purchasing medicines for the use of the poor, and the other moiety thereof for the use of the informer."

By a clause in the last Charter of the College of Physicians it is provided that no apothecary, in Dublin or its neighbourhood, shall "take any Apprentice or Apprentices but such as shall be so well skilled in the Latin Tongue as to be able to understand

^a *Member* in this clause means *Fellow*.

such Prescriptions as by any such Physicians shall be sent unto them in Latin." The candidates for apprenticeship were to be examined by the President and Censors of the College as to their Latinity, but this practice is now exercised by the Governors of the Apothecaries Hall. It is obvious that if the spirit of the preceding rule were carried out there would be such correct pharmaceutical Latinity as to leave no pretext for a practitioner prescribing, either wholly or partly, in English.

If we are to continue the use of Latin prescriptions I think a prominent place in all final medical examinations should be given, not only to pharmaceutical Latin, but also to the art of writing the same with a trifling measure of legibility.^a

Before saying more on this subject it may be well to notice the symbols inserted in the Preface to the *Pharmacopœia*, or, rather, the abolition of those previously in use.

If a prescription be written in English the present system is generally consistent with itself; but if in Latin I have no hesitation in calling it clumsy and ungrammatical in the extreme. Take the following example, in which the weights are used:—

R—*Unguenti simplicis*, ℞. i (*libram unam*).
Gallæ pulveris, oz. i (*once unam*).
Opii pulveris, gr. 10 (*grana decem*).

Here ℞., being itself a symbol of the pound avoirdupois, and also an abbreviation of the Latin *libra*, a pound, its use, whether with Roman or Arabic numerals, is quite correct; but in what light is oz. to be considered? If as a symbol, it does not answer the purpose, because though it has a verbal meaning it is not a Latin one. If, on the other hand, it be considered an abbreviation, we have the French "once," in its old spelling, coupled with the accusative case of a Latin pronoun; while in the third instance ("gr. 10"), if it mean *grana decem* it is good Latin; but, if it be English, "grain ten" is bad grammar. Should the English be corrected, and the new reading be grs. 10, you have the unclassical mixture of English and Latin.

^a The recent decision of the *intelligent* (?) majority of the Medical Council to the contrary notwithstanding, it is most desirable that every student should know Greek, and medical Greek, too. In no Irish preparatory school of any pretensions is a youth taught Latin without being taught Greek also. However, it seems that the educational standard of our profession must be lowered to suit the Grecian famine among our friends across the water.

Again, with regard to the measures, there is the same objection. A gallon has a symbol, C, which in a Latin prescription is *congius*, and a pint is O, in Latin *octarius*. So far the use of these in Latin prescriptions is correct; but we next come to *fl. oz.* and *fl. drm.*, evidently intended as English symbols or abbreviations, or both. For the reasons already stated these are manifestly incorrect in a Latin prescription while the *minim* retains its former position.

It will be observed that the Council retain the Roman numerals for fluids, while the Arabic are used for solids. This is a very useful distinction; but, then, in a Latin prescription you have anything but a pleasing mixture of English, old French, and Latin, *e.g.*, *fl. oz. xx.*, “fluid *onze vingt*.” The *fl.* is manifestly superfluous where the very character of the numerals is sufficient distinction.

In the preface of a very useful little book, *The Prescriber's Companion*, by Dr. Meadows, without which, or some other like work, the *Pharmacopæia* would be a sealed book to the practitioner, it is suggested to retain the abolished symbols \mathfrak{z} i and \mathfrak{z} ii for fluids, instead of *fl. oz.* and *fl. dr.*, prefixing *f* to each, for distinction's sake. The following specimen prescription is given in illustration of the system there proposed:—

R.—*Ammoniac carbonas*, grs. 30.

Spiritus chloroformi, f. \mathfrak{z} i.

Aqua camphoræ, f. \mathfrak{z} viii.—M. *ft. mist.*

Now, over and above the fact, which every schoolboy can discover, that each line of this prescription is wholly defiant of the genitive case, into which *carbonas*, *spiritus*, and *aqua* should have been declined, we object to grs. 30, that, whether it be understood to represent “grains thirty” or “grains *triginta*,” it is equally bad in a Latin prescription; while to f. \mathfrak{z} i and f. \mathfrak{z} ii it is objected that, whether rightly or not, these symbols no longer exist, having been abolished by law.

In what way, then, can we continue correct Latinity and yet write a prescription in accordance with the symbolism of the *Pharmacopæia*? Only by verbal description of weights and measures, where the symbolic plan would prove clumsy and incorrect. Thus C, O, and \mathfrak{b} . are themselves symbols of Latin terms, and may be correctly used; so may gr. and min., which may be singular or plural and yet good Latin; while the addition of s to either Anglicises it. So drm. may stand for *drachmam*, and drs. for

drachmas, and be so written. The ounce is the weak point; and to illustrate the plan just alluded to I shall apply it to prescription No. 302 in the fifth edition of Hooper's *Physician's Vade Mecum* :—

R—*Potassæ tartratis*, *unciam*.

Mannæ optimæ, *unciam*.

Aquæ destillatæ, *fl. uncias vi.*—M.

This is in perfect accordance with the symbolic system of the *Pharmacopœia*, and it is manifestly clear enough. Now, I shall put the question—"Apply this principle to the prescription quoted from Dr. Meadows, having special reference to its Latinity?" The answer may be best given by marking the quoted prescription A, the altered one, B, and then placing them in parallel columns :—

A

R—*Ammoniæ carbonas*, grs. 30.

Spiritus chloroformi, f. ʒi.

Aquæ camphoræ, f. ʒviii.—M.

B

R—*Ammoniæ carbonatis*, gr. 30.

Spiritus chloroformi, fl. drm.

Aquæ camphoræ, fl. uncias viii.—M.

After all, the prescription B is not written with symbols, but with abbreviated words; and there is no enactment in the *Pharmacopœia* for the use of symbols of any kind in prescriptions. Those laid down in the preface may be considered as useful to the chemist and pharmacist; while it is to be observed that in the work itself the quantities and numbers are set down in words at full length. Thus we may prescribe, as above laid down, in perfect consistency with the symbolism of the *Pharmacopœia*, by using abbreviated words. This system will answer well for printed formulæ in medical books and for private case-books; but for the Irish practitioner there is one course open in writing prescriptions for apothecaries. It combines clearness, correct Latinity, obedience to the provisions of the *Pharmacopœia*, and to the existing law of the land; for section 19 of "Lucas' Act," already quoted, provides:—"And, in order to prevent the uncertainties and dangers which may attend the setting down the quantities of medicines in chemical and numeral characters, in prescriptions, be it enacted, by the authority aforesaid, That every physician, surgeon, or other person or persons, who now do, or hereafter shall, take upon him or them to prescribe internal or external remedies for the health of man's body in this kingdom,

shall hereafter write or set down the quantity or quantities of all and every medicine or ingredient, whether simple or compound, which he or they shall prescribe in any *recipe, formula, or prescription*, in words at length, and not in chemical or numeral characters, under the penalty of forty shillings for every such omission."^a

The quotation of the carbonate of ammonia above is an instance of one of the grammatical changes wrought in the *Pharmacopœial* nomenclature. I refer to the fact that the specific names of salts, which were formerly *neuter* in the Dublin and Edinburgh *Pharmacopœias*, with a short penult in their inflections, are now feminine, with inflected long penult. Thus carbonas, which in Dublin and Edinburgh became carbonātis in the genitive case, is now declined carbonātis, as formerly in London.

After reading many criticisms on the *Pharmacopœia*, and many comparisons of it with past editions, I believe the only way in which the practitioner can safely act is to wash the tablets of his memory as clean as Locke's celebrated sheet of white paper, so far as all past *Pharmacopœias* are concerned, and to "make up," *modo scholarium*, the new one, as a previously unexplored field, a *terra incognita* in *Materia Medica*. Until this is done, the best plan is to prescribe *Secundum Pharmacop. Dub.*, and head the prescriptions accordingly. Dr. Watson has been strongly censured for recommending his brethren to adhere to the old until they learned they new;^b but what else can be done by busy men, who are expected to act forthwith according to the directions of a book, which, after long deferred years of preparation, is suddenly thrust forth from the press without—what certainly should have been given—six or twelve months' notice of its edicts coming into operation.

This is the only part of Dr. Watson's now celebrated speech which can commend itself to loyal members of the profession. I refer, of course, to a late meeting of the College of Physicians of London, where its eminent President, in effect, advised the Fellows to ignore the existence of the *British Pharmacopœia*, and to prescribe as heretofore. I wonder what we should all say to the Provost of Trinity College, if he should address the Fellows of that body, and recommend them to ignore the existence of an Act of Parliament concerning education, founded on the report of a commission of

^a I am indebted to the kindness of Professor Aquilla Smith for copies of the legal documents noticed or quoted in this paper.

^b The newspaper reports of Dr. Watson's recommendation describe him as censuring the *Pharmacopœia*, while admitting that he had not read it!!!

educated men? Yet such an example as this has been shown on a grave matter concerning the public health, by the head of what was always considered the first medical corporation in law-and-order-loving England. Doubtless it is not pleasing to the strong prejudices of medical men who have thought and written on every conceivable professional question, as if London were the kingdom, and no facts or knowledge outside it were worthy of notice, to be called on to use the large part of the last *Dublin Pharmacopœia*, which has been virtually incorporated with the new code. A local prejudice on the part of the profession, and a trade jealousy in another direction, will go far to explain the *hinc illæ lachrymæ* touching the *Pharmacopœia*, which even with a camel's load of errors, as some have it, is a great step in the right direction.

That apothecaries and chemists will destroy *all* old preparations is not to be expected or *wished*. What would become of family prescriptions of men deceased—say of Graves or Marsh—in this city? Any man reading a good book, published before this *Pharmacopœia*, will have to go through the labour of translating the prescriptions in it into the language of novel pharmacy. In the late French edition of Graves' *Clinical Medicine*, the prescriptions are Gallicised in the foot-notes; the same thing must be done with the last English edition. If those who write for students or junior practitioners, do not adopt the *Pharmacopœial* language and symbols they will only confuse the very class they design to teach.^a

ART. IV.—*On the Therapeutic Value of the Alkaline and Earthy Sulphites in the Treatment of Catalytic Diseases.* By H. R. DE RICCI.

IT is now about three years since my distinguished friend, Professor Polli, of Milan, communicated to the world his important discovery of the action of the sulphites in certain forms of disease. Being fully impressed with the value of his discoveries, I have ever since devoted much of my time and attention to the careful investigation of the therapeutic action of these salts, not only by trying experiments upon the lower animals, but also by largely administering

^a This is not theoretical. Sometime since the appearance of the *Pharmacopœia*, Dr. Frazer, himself a well-known writer on, and teacher of, *Materia Medica*, published a useful book on the treatment of skin diseases, in which the abolished symbols are used. In the preface this book is recommended to students and junior practitioners.

them in my practice in every case that seemed likely to be benefited by them. The results have been most encouraging; and I now submit them to my professional brethren, by whom I trust that the experiments will be repeated, when I feel certain that they will obtain equal, if not greater, results.

For the benefit of those who may not have read my former publications on the action of the alkaline and earthy sulphites, nor the original writings of Professor Polli, I shall now, as briefly as possible, recount the origin and result of his discoveries.

For several years past a theory has been almost universally gaining ground that a great number of diseases depend essentially on the presence of an organic poison circulating in the system, where, acting as a ferment in the blood, it multiplies itself, vitiating the animal fluids and giving rise to divers diseases, according to the special poison in circulation; thus in one case producing small-pox, in another scarlatina, in another puerperal fever, &c. These diseases have been termed *zymotic*, on the supposition that the circulating poison acted as a *ferment* in the blood; but, as the precise mode of action of these animal poisons is not as yet well understood (though it is no doubt a chemico-vital action), I shall throughout this paper employ the term *catalytic* instead of *zymotic*, as perhaps better calculated to convey the idea of the function of these poisons, without absolutely involving a principle, which the term *zymotic* might do.

Several years ago Professor Polli, being fully convinced of the truth of the catalytic theory of many diseases, devoted his time and talents to search out some means by which these poisons, even after they were absorbed or developed in the animal economy, might be neutralized, and eventually eliminated, without, at the same time, imperilling the integrity of the blood. The task was an arduous one, for the great physiologist, C. Bernard, had dogmatically asserted that any substance capable of destroying a catalytic poison in the blood would, at the same time, so alter that fluid itself that it would be rendered incapable of performing its vital functions. Professor Polli, however, had long observed the action of sulphurous acid in arresting the process of fermentation. He was convinced in his own mind that in it would be found the anti-catalytic substance he was seeking for. He persisted in his researches, and eventually succeeded in establishing that not only sulphurous acid possesses the property of arresting fermentation and neutralizing catalytic action, but that also its alkaline and earthy compounds have the

same power, with this difference, that while sulphurous acid can not in any way be introduced into the circulation with safety, the alkaline and earthy sulphites, hyposulphites, and bisulphites can be administered with the greatest impunity, even in large doses; and their presence can always be detected when administered, not only in the blood but in the tissues and evacuations. Having satisfactorily established this important fact, he began a series of experiments on animals, which proved, most successfully, the correctness of his theory and the accuracy of his deductions. Nothing could give me greater pleasure than to recount the several interesting experiments which he performed, but it would lengthen this paper too much, and otherwise occupy too much of the space of the Journal; and, for those who are interested in this matter, I beg to refer them to a communication read by me, about a year ago, at the Obstetrical Society in this city, in which will be found a short epitome of Professor Polli's experiments.

From the moment I first read the account of Professor Polli's researches I came to the conclusion that his discovery was either valueless or of immense value. In such a case there could be no medium; it was either utterly worthless, or it was a discovery second to none—a discovery even greater than that of vaccination, and one which would constitute one of the greatest epochs in the annals of medicine; for vaccine could, at most, only ensure the vaccinated against one single disease, while the sulphites—if they truly could neutralize the action of catalytic poisons—of such poisons as *glanders* (see Polli's experiments)—would be able to arrest the course of small-pox, hydrophobia, syphilis, infection from dissecting wounds, erysipelas, puerperal fever, measles, scarlatina, whooping cough, dysentery, diarrhea, cholera, influenza, typhus, dothineria, plague, diphtheria &c., &c., all which are classed by Dr. Farr as zymotic diseases. The question seemed to me of such vast magnitude and importance that I solicited in every direction for co-operation in testing the real value of these sulphites. I first tried them on myself, and finding them decidedly harmless, even in doses of one scruple, five or six times a-day, I began to administer them in every case where I thought that a catalytic poison might be the cause of disease. In no case did I meet with any mishap, and in most cases I think I can fairly say I was successful. In no case did the exhibition of the sulphites produce sickness of stomach, diarrhea, or any other inconvenience; and in every case their administration seemed to be of decided advantage.

The first case I shall describe is one of great interest and value in a clinical point of view; it was undoubtedly a case of infection from an animal poison. The patient was almost given over as lost, so severe were the symptoms of the disorder; yet the patient recovered, and the treatment consisted solely in the administration of the bisulphite of soda, in full, repeated, and continued doses.

A lady of about forty-five years of age, of sound constitution, and in the enjoyment of excellent health, was suddenly called, about a year ago, to the death-bed of one who was very dear to her. That death-bed was fearfully sudden and unexpected, and that poor lady could not be persuaded, long after death had indubitably taken place, that the spirit of the beloved one had really fled. She would not leave the corpse; she threw herself on it, and kissed it over and over again, and could not be induced to leave it, even when the discolouration of the skin and the offensive smell of rapidly-advancing decomposition gave ample testimony of the reality of death. The burial was performed two days after death, owing to the rapid decomposition of the body; and, soon after the funeral, I was hastily summoned to the bedside of this lady, whom I found in the following condition. It was about five in the morning when I entered the bedroom. She had gone to bed the night before quite calm and resigned, and on the previous day she had partaken fairly of food, but had not eaten anything which could in any way account for the state in which I found her, of which the following is a fair sketch:—The windows of the bedroom being open, the morning light streamed freely into the room, and as I approached the foot of the bed I had a full view of the patient's face. To those of my readers who, like myself, have been familiar with the victims of cholera I shall simply say that the patient looked like one in cholera, in the stage of collapse. To those who have not yet had the melancholy opportunity of witnessing a case of that terrible disease I shall say that I hardly recognized my friend, so altered, and pinched, and ghastly were her features. Her eyes were sunk, and surrounded by a lead-coloured zone; her cheeks, which, but a day before, were plump and ruddy, were now hollow and sunk; her eyes were glassy; her pulse scarcely to be felt; the surface of the body cold; her breath cold; her tongue cold; her voice low and husky; her faculties perfectly clear. She now lay quite prostrate on her back; but for some hours previously had suffered greatly from vomiting, cramps, and diarrhea, which was of the characteristic rice-water appearance always observed in cholera. I at once

administered a full supply of hot brandy and water, ordered turpentine stupes to the abdomen and limbs, treating the case exactly as one of Asiatic cholera; and, being fully alive to the grave nature of the attack, requested for further advice, and at once sent off for my valued friend, the late Dr. Mayne. At first I felt singularly at a loss how to account for so sudden and so severe an attack of what seemed to be a genuine case of Asiatic cholera. So true was it to symptoms that, when Dr. Mayne looked at the patient, he whispered to me:—"If cholera were in the country one would not hesitate to give this case a name." The clue to the disease was, however, given to me, in a few words, by the patient herself. As soon as she had taken the brandy she said to me:—"The smell of the body was dreadful; I cannot get rid of it in any way;" and immediately she began to retch. She had given me the key, and the mystery of her case was solved. It was no doubt a case of putrid infection—of septicemia; and if there was any truth in the "sulphite" theory it should prove of value in such a case as this. I at once ordered a strong solution of bisulphite of soda in infusion of quassia, with tincture of bitter orange peel and Battley's sedative—two drachms of the bisulphite to the ounce—and gave it in large teaspoonful doses, every half-hour at first, and then every hour, each dose containing nearly twenty grains of the bisulphite. I watched this case incessantly myself, day and night, and the result was most satisfactory. All the symptoms by degrees abated, and in a very few days the patient was fully convalescent. Dr. Mayne, who had anxiously watched this case with myself, was so impressed with the results obtained that he told me he would give the remedy a full trial in every case of scarlatina that should come under his care; and, in addition, promised (at my suggestion) that he would prescribe a dose of the sulphites daily to every healthy member of the family in which there was a case of scarlatina, to test its value as a prophylactic; for if a sulphite could destroy a catalytic principle, even when developed in the system, it should also have the power of preventing the development of that principle from the commencement.

As I stated above, the lady recovered, and, apparently, was restored to absolute health; she, however, complained to me occasionally of wandering pain, and general *mal-aise* at times, which she could not account for. About five months after her recovery she hurt her leg; it was a very trifling abrasion, but it assumed an angry look, and seemed determined not to heal, when, at the end

of two months, she broke out all over with an extraordinary eruption, more like erythema-nodosum than anything else, when I at once placed her again on bisulphite of soda, in the supposition that some of the poison was still lurking in her blood, when the sore in the leg rapidly healed and the eruption disappeared, leaving the patient perfectly well.

The next two cases in my list were well-marked types of measles. I shall not take up the time of my readers by giving the details of them. I shall merely state that they were severe cases; that they were treated solely with bisulphite of soda, in scruple doses, every second or third hour, and that both cases grew rapidly well.

The fourth case is one of poisoned wound. A. B., aged about thirty-five, a gardener, was grafting a cactus, and in carelessly handling such a thorny plant, got the back of his left hand severely stung in different places. He plucked out as many of the spines as he could discover, and thought no more about the matter; but in the course of twelve hours or so the hand began to swell and be painful. He at once wrapped it up in a poultice; but the pain and swelling not abating, his employer sent him to me, three days after he had been stung. I found his hand enormously swelled, of a dusky purple colour, with large bullæ over the dorsum; the fore-arm also swelled, though not discoloured, but presenting several longitudinal red lines running up to the elbow. The man complained of great pain locally, of intense thirst, headache, loss of appetite, shivering, and general feeling of sickness. His tongue was furred and brown. He had, of his own accord, taken a dose of senna and salts that morning. I at once made an incision in the dorsum of the hand, and some pus came out. It was not, however, like cutting into an abscess—no gushing of matter took place, only an oozing, like as if I had cut into a sponge saturated with pus. I therefore made a second incision, parallel to the first, from which some more pus came out; ordered him to wrap up the hand in a large linseed-meal poultice, and prescribed the bisulphite of soda, in scruple doses, every second hour. I desired the man to keep quiet at home—without, however, ordering him to keep his bed; directed him to take light nutritious food, and to drink two pints of XX porter in the day. The following day the hand looked better; it was less swollen and purple, and the pus was in larger quantity and better looking. The man felt also better; he had less thirst, and had only had two slight shiverings. The bowels not having been freed, I ordered him some sulphur, with magnesia and

scammony, as an aperient, and to persist with the bisulphite, taking it now every third hour. The following day the man was so much improved that he called on me. The hand looked still better; the incisions which I had made had ulcerated somewhat round their edges, but the suppuration was free, and the pus seemed quite healthy; there was no pain in the arm, and the red lines were very much paler. Matters looking so very much better, I desired the man to take the sulphite only three times in the twenty-four hours; to take a good allowance of food; to stay much in the open air; but to still keep the arm in a sling, and the hand wrapped in a poultice. Two days later he again came; when, finding that all swelling had subsided, all pain gone, all red lines disappeared, the sore inclined to granulate, I stopped the poultice, and desired him to dress the hand with some warm dressing, containing a little balsam of Peru, and to take one scruple of the bisulphite twice a day. Two days after the man returned to me, not looking as well as at the previous visit. He had a yellowish tinge in his skin; his tongue was foul; he complained of chilliness, almost amounting to shivering, and the sore at the back of the hand looked unhealthy and angry. On stripping the arm, the red lines were again visible, but of a very pale red; while above the elbow, from its bend to the axilla, a hard, knotty, and extremely painful cord could be felt and seen running up parallel to the brachial artery. I at once returned to the primary doses of bisulphite, wrapped up the hand in a poultice, and watched to see what the result would be. The man immediately began to mend, and in four days not a trace of hardness was to be felt. Fearing, however, a relapse, I continued administering four scruples of bisulphite daily for ten days longer, by which time the hand was perfectly healed, and the man returned to his work.

Two better cases for testing the effects of sulphites could not possibly have been selected; in both cases the disease clearly resulted from the working of a poisonous element in the blood, evidently introduced from without in the first case, whilst it may in the second case have originated within the system subsequent to the stinging with the thorns, if one does not feel justified in considering cactus thorns as poisonous of themselves; be this, however, as it may, the second case was as clearly one of purulent absorption as the first was of putrid infection—the red lines up the arm marking the course of the inflamed lymphatics as the hard knotty condition of the veins denoting the phlebotic inflammation. Both were treated solely with sulphites, and both completely recovered. It would be

great presumption, no doubt, to say that in both cases the patients would have lost their lives except for the saving properties of the bisulphite of soda administered; but I still cannot avoid believing that the sulphurous acid did prevent the spreading of the catalytic principle by rendering it incapable of re-producing itself;^a and, while keeping it in abeyance, allowed time for its elimination by the ordinary powers of nature; and I think we have a confirmation of this view in the occurrence of a relapse in both cases, where it would appear as if, when the bisulphite was stopped, all the poison had not yet been eliminated, the blood disease breaking out again the moment that the poison was freed of its antagonist; and a cure being effected by administering more of the anti-catalytic remedy until every trace of the animal poison was eliminated.

(To be continued.)

ART. V.—*On English and Continental Spas, their Physiological Effects, and their Therapeutical Use.* By JULIUS ALTHAUS, M.D., M.R.C.P., Lond., Physician to the Royal Infirmary for Diseases of the Chest.

THIS paper is intended to be a guide to the practitioner in prescribing those mineral waters of England and the Continent of Europe, which are at present generally used for therapeutical purposes. I shall successively consider the alkaline acidulous springs, the muriated alkaline acidulous waters, the alkaline saline, and the bitter waters; the simple muriated and the muriated lithia waters, the brines, the iodo-bromated and earthy waters, the indifferent thermal springs, the chalybeates, and the sulphurous waters.

1. *Alkaline Acidulous Waters.*—The chief ingredients of these are carbonic acid and bicarbonate of soda, and the most important spas of this class are Vichy, in France, Fachingen and Geilnau, in Nassau, and Bilin, in Bohemia. The quantity of bicarbonate of

^a The action of the sulphites on zymotic or catalytic principles is very peculiar; it does not seem to kill them outright, but only to neutralize their action for the time being, so that in treating a case depending on a catalytic poison a relapse may be surely expected if the remedy is discontinued too soon, and before the powers of nature have been able to eliminate it completely from the system.

soda contained in the several springs amounts to from 8·14 to 37·50 grains, and the carbonic acid from 10 to 47 cubic inches in the pound of water. Their therapeutical effects are mainly due to the water, its temperature, and the two ingredients just named.

Carbonated water, when drunk, quenches thirst and has a pleasant effect upon the palate. Carbonic acid being the chief spice contained in cold drinks, especially in fermented liquors, water has a very flat taste when devoid of this gas; and even breast milk is rendered more palatable by it to the infant. Carbonated water stimulates the gustatory nerves, increases the flow of saliva, and thereby promotes digestion; at the same time the earthy salines, which are contained in the food, are more easily dissolved. Part of the gas is generally brought up by eructation, especially if the stomach is full and the quantity of water drunk considerable. Another part is absorbed and carried to the portal vein and the liver, and afterwards to the brain and other remote organs. When taken in moderate quantities, acidulated waters accelerate the pulse, render the head clear, and the mind cheerful. Large doses, such as from ten to twenty tumblerfuls, cause sickness, vomiting, and congestion of the brain; and unless the carbonic acid is quickly eliminated, apoplexy may be the result. In such cases the physiological effects of the gas are combined with those of a mechanical distension of the stomach, whereby a pressure upon the heart and the great vessels is produced.

Bicarbonate of soda when internally administered exalts the natural alkalinity of the blood and renders the urine alkaline. It also increases the quantity of excretions, and promotes menstruation.

The taste of the alkaline acidulous waters varies according to the quantity of carbonic acid, and solids contained in them, and is pleasant if the former, and unpleasant if the latter predominate. They increase the appetite, but scarcely ever act as aperients. A diuretic action is the rule; but perspiration is generally not increased. The mucous secretion of the bladder becomes less tenacious. Their action upon the urine differs according to the state of the stomach, and that of the system generally. In persons suffering from excessive acidity in the stomach, the alkali is neutralized in the *primæ viæ*, and it therefore does not alter the reaction of the urine. But where little acid is present in the stomach, as, for instance, in a healthy person before breakfast, the urine quickly becomes alkaline. Large doses produce irritation and inflammation

of the stomach and the kidneys, whereby the urine is prevented from becoming alkaline. Thus a small quantity of Vichy water may cause the urine to become alkaline; while, if a large amount is taken, it may remain acid. A too much prolonged use of these waters has frequently a noxious effect upon the composition of the liquids and tissues of the body, and may induce general prostration.

Acidulous alkaline springs are useful remedies in those forms of indigestion which arise from deficient innervation, and secretion of the gastric juice, or from chronic inflammation of, and excessive acidity in, the stomach. Carbonic acid improves the innervation and secretion, while, by the bicarbonate of soda the surplus acid is neutralized, and the tenacious mucus, which, in cases of chronic catarrh adheres to the mucous membrane, is fluidified. In icterus arising from catarrh of the hepatic ducts and gall-stones the waters of this class frequently prove curative, especially where there is no disposition to congestion and hemorrhage, nor any great excitability of the nervous system. In gout the waters have not quite answered the expectations that were entertained of them for this affection; but, if the dyspeptic symptoms are very prominent, they deserve a trial. In uric acid diathesis, and in renal calculi and gravel, they are useful, especially in combination with carbonated water baths.

Their reputation as solvents of stone in the bladder is totally unjustified; but in atony of the bladder in old people they may serve as diuretics, and so act as preventives of calculus, as they do not allow an accumulation of mucus in that organ, which might become the nucleus of stone. In chronic bronchitis they are often employed, but are far inferior to the muriated acidulous alkalines; while in portal plethora, on the whole, the alkaline salines are preferable. In diabetes, especially if it is connected with gout and disordered liver, the Vichy waters have frequently a beneficial action; and although it is scarcely to be assumed that they should ever prove curative, yet, by their use, all the symptoms of diabetes have been made to disappear for years.

Baths of Vichy water render the urine neutral or even alkaline; and if they are used for some time the perspiration and saliva also become alkaline. This is most probably due to the local influence of the water upon the skin; the absorption of bicarbonate of soda from the bath being exceedingly doubtful. These baths are useful in most cases in which the water is internally administered.

2. *Muriated Alkaline Acidulous Waters.*—The chief constituents

of these are carbonic acid, bicarbonate of soda, and chloride of sodium; and the most important spas of this class are—Ems, Selters, and Weilbach, in Nassau, Salzbrunn, in Silesia, and Luhatschowitz, in Moravia. The amount of bicarbonate of soda contained in them is from 7·37 (Weilbach) to 44·21 (Luhatschowitz); that of chloride of sodium, from 9·77 (Selters) to 33·47 (Luhatschowitz); that of the carbonic acid, from 6 (Ems) to 50 cubic inches (Luhatschowitz); the temperature is from 45° (Salzbrunn) to 117° 5' (Ems, Neue Quelle); so that in this as in the former class, there is a great variety of similar remedial agents at our disposal.

Chloride of sodium essentially promotes digestion. It not only causes a more considerable secretion of gastric juice and bile, but it also facilitates the absorption of chyle by the capillary vessels of the intestines; and is effectual in preventing fermentation and putrefaction in the intestinal canal. Moreover, as the phosphate of lime is more easily soluble in a solution of chloride of sodium than in ordinary water the absorption of this important substance is facilitated. The feces are rendered more fluid and are more easily voided, there being a more abundant secretion of the intestinal mucus, and desquamation of epithelial cells. The formation and elimination of urea is augmented, and the retrogressive metamorphosis of matter altogether promoted.

By the internal administration of Ems water the urine is generally rendered alkaline after a certain time. Sometimes its use is followed by considerable diuresis and diaphoresis, while at other times purging is induced. If the weather is damp, diuresis is increased; but in dry weather, and in persons whose skin acts freely, the water has a more diaphoretic effect. Its action depends also in a great measure upon the quantity and temperature of the water taken. It also excites the motion of the ciliated cells and of the spermatozoa; from which it has been concluded that the beneficial effect of Ems in chronic bronchitis may be due to the influence of the water upon the epithelium of the air-passages, and that the effect of the same spa in curing sterility may be ascribed partly to a diminution of the acidity of the vaginal and uterine mucus, which, according to Donn , is very detrimental to the viability of the spermatozoa; and partly to the direct action of the water upon the spermatozoa themselves.

The waters of Ems are the only thermals of this class, and are, on account of their high temperature, useful in many cases where

cold springs of a similar character are not applicable. Bronchitis, if caused by cold, or when it occurs in children after measles, or in gouty persons, where it sometimes alternates with true fits of gout, is frequently cured at Ems; but this spa should be avoided where there is a tendency to hemoptoe and tuberculos-is. Obersalzbrunn has a special reputation in cases of bronchitis connected with hemorrhoidal complaints, and Lubatschowitz, where there is a complication with scrofula. The same holds good for laryngitis. In emphysema, by the use of the same spas, dyspnea is relieved, expectoration promoted, and the abdominal circulation improved. In dyspepsia dependent upon disturbances in the portal circulation, in chronic intestinal catarrh, where constipation alternates with diarrhea, in certain forms of jaundice and hemorrhoidal affections, the spas of this class are also often used, although they are in this respect inferior to Carlsbad, Marienbad, and other springs. In chronic inflammation of the bladder Ems is preferable to Vichy, if the patients are of delicate constitution, and for whom the Vichy waters would be too potent. Gravel and renal calculi are frequently discharged during the use of the Kesselbrunnen, of Ems. In gout these waters may be used, where true fits of gout do not take place, and the patients are weak and irritable. Ems possesses the reputation of being almost a panacea for chronic parenchymatous metritis and allied diseases of the womb; and there is no doubt that in a great number of such cases the internal use of this water and the Bubenquelle, administered in the form of the ascending douche, prove curative after every other method of treatment had failed. The same spa is often useful in hysterical convulsions and paralysis, and in some diseases of the skin, such as eczema, occurring in young women who suffer from difficult menstruation; and in certain cases of prurigo.

3. *Alkaline Saline Springs.*—The chief contents of these springs are bicarbonate and sulphate of soda. The quantity of the former substance contained in Marienbad (Kreuzbrunnen) is 12·39; in Tarasp, 27·22; in Carlsbad (Sprudel), 9·06; of the latter Marienbad contains 36·26; Carlsbad, 19·96; and Tarasp, 16·54 grains saline in the pound. The temperature of the Tarasp springs is 37°; in the several waters of Marienbad it varies from 43° to 53°; and in those of Carlsbad from 117° to 162°.

The taste of Carlsbad water is slightly saline and alkaline, and resembles that of weak chicken broth. If it has been standing for

some time the taste becomes more strongly alkaline, and consequently more unpleasant. If a moderate amount of it is drunk, no striking effects of any kind are produced in healthy persons. The water seldom causes sickness. In former times, when it was customary for patients to drink from three to ten quarts of Sprudel per diem, and even more, and when it was not taken in the immediate neighbourhood of the spring, but carried into the house of the patient, where it was only drunk after having become cold, and lost its carbonic acid, purgative effects were more frequently observed than they are now-a-days; and Carlsbad has for this reason unjustly acquired the reputation of being a strongly aperient water. In many persons no purgative effects whatever are produced by it; and even the addition to it of Carlsbad salt is not always sufficient for relieving the constipation which sometimes follows. In most cases defecation is moderately increased, while in some there is obstinate costiveness, so that it is necessary to clear the bowels by enemata or purgatives. In some persons Carlsbad causes salivation, even when mercury has not been previously given. The quantity of the biliary constituents of the feces is generally augmented. The feces frequently appear black in the second week of the treatment; they afterwards become green, and then brown, and towards the end of the course their colour is again dark green. Sexual desire is sometimes increased; but diuretic effects are scarcely ever observed. The urine is generally alkaline in the morning, a short time after the water has been drunk; but that discharged in the evening and during the night is always acid.

The specific gravity of the urine is diminished in some, while in others it is increased; the elimination of urea and uric acid is considerably diminished; phosphoric and sulphuric acid are generally increased, while chloride of sodium is diminished. The weight of the body is almost always increased.

Patients suffering from disturbance of the abdominal circulation are those most frequently sent to the alkaline saline spas, and are generally improved or cured, if the stagnation of blood is owing to habitual constipation, pressure from accumulated feces, and certain diseases of the liver; especially if brought on by excessive eating, drinking, or smoking, and by sedentary habits or the effects of climate. In cases of abdominal plethora, the action of the skin is generally very sluggish, and baths of mineral water, moor-baths, or moor-cataplasms, are therefore an excellent auxiliary to a cure. In moor-baths the body is able to bear a far higher degree of heat

than in ordinary water or mineral water baths. In obstinate constipation Marienbad is preferable to Carlsbad, as it contains a more considerable amount of sulphate of soda, whereby it is rendered somewhat similar to the bitter waters; from these latter it is, however, distinguished by containing bicarbonate of soda, carbonic acid, and bicarbonate of iron. These ingredients have the effect of accelerating the circulation and increasing the retrogressive metamorphosis of matter, while, at the same time, the system is not so much weakened as is done by the use of the stronger bitter waters.

In hyperemia of the liver arising from abdominal plethora or from ague, the Carlsbad Sprudel is an excellent remedy. The same may be said of fatty degeneration of the liver when not combined with other structural diseases, and granulated liver in its first stage, when this organ has not yet become atrophic. Icterus arising from catarrh of the hepatic ducts, gall-stones, or hyperemia of the liver, are often cured by the same waters; while in cases which are consequent upon granulated liver in the second stage, cancer and other tumours pressing upon the ducts, the use of the waters must be avoided. The discharge of gall-stones during the administration of Carlsbad water is an event of very frequent occurrence. Similar effects are also produced in renal calculi and gravel. In diabetes the same water deserves a fair trial. We know of no radical cure of diabetes by this treatment, but the patients are often temporarily restored to perfect health, especially if this disease is complicated with gout and disordered liver. Great and lasting effects may also be expected from these springs in those forms of gout in which dyspepsia, hyperemia of the liver, and abdominal plethora are prominent symptoms.

The question often arises, whether a patient had better be sent to Vichy, Carlsbad, Marienbad, or Tarasp, as all these springs may promise to be beneficial in certain cases. From Vichy, Carlsbad is distinguished by the absence of any considerable amount of carbonic acid, and by the presence of sulphate of soda. The function of the stomach is therefore more excited by Vichy than by Carlsbad water; and, on the other hand, the latter can be advantageously used in subacute inflammation of the stomach and the intestines, in which the former is likely to do harm. By the sulphate of soda it contains Carlsbad water acts more powerfully upon abdominal circulation than Vichy water. Marienbad is preferable to Carlsbad in cases where an accumulation of fecal matter is the cause of the

disease, and a thorough clearing of the bowels is advisable; and also, for stout persons who suffer from the effects of too generous living. Tarasp is, by its chemical composition and the low temperature of the water, more closely allied to Marienbad than to Carlsbad, and may be employed with advantage in all cases in which Marienbad is suitable.

4. *Bitter Waters.*—The chief contents of bitter waters are the sulphate of soda and magnesia; and the most important springs of this class are those of Püllna, Sedlitz, and Saidschütz, in Bohemia; of Kissingen, in Bavaria; and of Friedrichshall, in Saxe-Meiningen. The quantity of sulphate of soda contained in the pound of water is from 46·5 grains (Friedrichshall) to 123·8 grains (Püllna); that of sulphate of magnesia from 39·5 (Friedrichshall) to 93 (Püllna). The bitter waters of Friedrichshall and Kissingen are distinguished by containing, besides the sulphates just mentioned, a considerable amount of chloride of sodium (61 grains in the pound), by which their action is so advantageously modified that they should be used with preference whenever the use of bitter waters is required. A protracted use of such bitter waters as contain only sulphates, is very apt to impair digestion; they cause a considerable accumulation of fluid in the intestinal canal, and only a very small amount of the salines is absorbed. A proportionate mixture of the sulphates and table-salt seems to prevent any injurious effects following. The Kissingen bitter water differs from that of Friedrichshall merely by containing a certain amount of carbonic acid, whereby it is rendered more palatable and agreeable to the stomach. The physiological effect of the sulphate of magnesia is, on the whole, very similar to that of the sulphate of soda; but the former seems to be more noxious to the system than the latter; thus, after an injection of a solution of sulphate of magnesia into the veins, the heart and the voluntary muscles become paralysed, while, if sulphate of soda be injected, the contractile power of the muscles is in no way diminished.

The physiological effects of the Friedrichshall bitter water have been minutely investigated by Dr. Mosler, with special regard to the weight of the body, animal temperature, the rate of pulsation and respiration, and the condition of the feces and urine. From these experiments it appears that the *purgative* action of the mineral water is more considerable if taken on an empty stomach; but that the *diuretic* effect of the water is greater if taken after a meal.

With regard to the elimination of the solid constituents of the urine, it appears that urea and chloride of sodium are increased, while the quantity of uric acid is diminished, and the increase of sulphuric acid which is perceived is merely due to the quantity of sulphates ingested with the mineral water. The rate of pulsation and respiration is somewhat increased; but animal heat scarcely altered. The weight of the body is reduced, but immediately increased again when the use of the mineral water is discontinued. The waste of tissue induced by it is chiefly confined to the fat. A considerable contrast has thus, by the researches of Drs. Seegen and Mosler, been shown to exist between the Carlsbad and the Friedrichshall mineral waters. Friedrichshall is both a purgative and diuretic, while Carlsbad has only little effect in stimulating the action of the bowel, and may even cause constipation; and, on the other hand, far from being a diuretic, it does not even allow the whole quantity of water ingested to be again eliminated. Friedrichshall increases the elimination of the solid constituents of the urine, and more especially that of urea and chloride of sodium; Carlsbad, on the contrary, diminishes the excretion of urea, uric acid, and chloride of sodium. Friedrichshall, if taken in large doses, diminishes the weight of the body, which is increased by the use of Carlsbad water. As to the mode of using Friedrichshall, I may remark, that it should be drunk before breakfast, if we wish to cause a purgative action; and after breakfast, if we desire to act on the kidneys.

Cases in which it is advisable to administer a mild purgative and diuretic, which is well borne by the stomach and does not weaken the system, are extremely numerous. If there is a considerable accumulation of feces, or congestion towards the head and the lungs, large doses of Friedrichshall, viz., from one to two pints, may be taken at short intervals. In abdominal plethora, especially where it occurs in pregnant women, or when due to sedentary habits, disease of the heart, and indulgence in the pleasures of the table, one tumblerful in the morning, and another in the evening are sufficient. As a diuretic, the water may be given in certain cases of dropsy, and pleuritic and other effusions. Finally, it proves eminently useful in serofula; especially in swellings of the cervical glands, tumours of the cellular tissue, chronic inflammation of the mucous membranes, and eruptions of the skin.

There are two waters of this class in England which deserve a far more extensive trial at the hands of the medical profession of

this country than has hitherto been given them, as they are, by their chemical composition, admirably suited for the treatment of many cases of disease, and quite equal to the Continental spas of this class. These are the bitter waters of Cherry Rock, near Kingswood, in Gloucestershire, and the Purton Spa, near Swindon, in Wiltshire. The combination of sulphates, chloride of sodium, and carbonic acid, in these waters is peculiarly valuable; and it is a matter of surprise that they have, up to the present time, been so little used. The Purton Spa is in so far superior to that of Cherry Rock as it also contains carbonate of potash, whereby the diuretic effects are increased. In my opinion, little or no value can be attached to the bromine and iodine contained in this water, the quantity of these substances being exceedingly small; but its effects are, no doubt, chiefly due to the sulphates, the chloride of sodium, and the carbonate of potash; while carbonic acid serves to render the water palatable and agreeable to the stomach. I am not aware whether the water of Cherry Rock is at present at all medically employed; that of Purton has, for the last few years, been used in diseases of the skin, certain abdominal affections, and other allied disorders. The two waters mentioned are probably destined to occupy a foremost position amongst all English mineral waters.

5. *Simple Muriated Waters.*—The spas of this class are distinguished by containing a somewhat considerable amount of chloride of sodium as chief ingredient; and the most important springs of this class are the thermals of Wiesbaden, Baden-Baden, and Bourbonne-les-Bains (149° to 155° F.); the tepid waters of Soden, Mondorf, and Canstatt (61° to 77°); and the cold springs of Kissingen, Homburg, and Cheltenham (50° to 53°). The quantity of chloride of sodium contained in the pound of water is from 17 to 114 grains; the Kochbrunnen, of Wiesbaden, contains 52; and the Ragozi, of Kissingen, 44 grains of this substance. These waters, when taken internally, excite the mucous membrane of the stomach, increase the appetite, promote the secretion of gastric juice, and intestinal mucus, and accelerate the desquamation of epithelial cells; the feces are fluidified, and their evacuation is thereby facilitated. The mucous membrane of the respiratory organs is likewise stimulated, and the general metamorphosis of matter considerably altered. After the use of the waters the urine contains more urea than under ordinary circumstances.

Baths of muriated waters have also a considerable influence upon

the system, and which is proportionate to the amount of chloride of sodium contained in the water.

Chloride of sodium is not absorbed by the skin, but it acts as a powerful stimulus to the cutaneous nerves; it promotes peripheral circulation, and may, by reflex action, exercise an important influence upon remote organs, and even upon the centres of the nervous system. The elimination of matter through the skin and the kidneys is, at the same time, increased, especially if motherlye is added to the bath. Brine vapour baths stimulate the mucous membrane of the respiratory organs and promote expectoration.

The physiological effects of the muriated springs are considerably modified by the temperature of the water, which, as I have just remarked, is very different in the several spas of this class. The cold muriated waters of Kissingen and Homburg, contain, besides the chloride of sodium, a very large amount of carbonic acid, by which, if the waters are used internally, the stimulation of the mucous membranes is further augmented; and, if baths are taken, the combined effects of carbonated and muriated water upon the skin are produced. Two of the Kissingen springs also contain a small amount of carbonate of iron, which was formerly believed to be an important constituent of the same; but it is more probable, that it is only the water, the carbonic acid, and the chloride of sodium which are the really active elements of these springs. The mineral waters of Homburg contain a much larger amount of iron than those of Kissingen; and, if the waters are used internally, this ingredient exercises a great influence upon the composition of the blood. The taste of these waters is refreshing, slightly bitter, salty, and astringent. The secretion of saliva is generally diminished by drinking them; but they cause a tough and alkaline mucus to be secreted in the mouth and gullet. Eructations generally follow, and a feeling of warmth is produced in the stomach. Hunger and thirst are increased; the pulse becomes faster, fuller, and harder; and diuresis is augmented. During the use of Homburg water the feces assume a dark colour; sulphuret of iron being formed in the bowel. Concerning the effect of the waters upon the intestines, they at first not unfrequently produce costiveness; more especially the Homburg water. The effect of the Kissingen springs upon the bowels is more considerable if it is allowed to stand for some time, as great part of the carbonic acid then escapes. The physiological effects increase in proportion to the quantity of water taken, and to the time its use is continued.

The thermals of Wiesbaden taste like chicken broth highly salted; they increase the flow of saliva and buccal mucus, induce frequent deglutition and acuteness of taste, and cause eructations, increase of appetite, and warmth in the epigastrium. One or two hours after drinking even small quantities of the water the flow of urine is increased, and it contains larger quantities of urea, uric acid, and chloride of sodium than is the case if corresponding quantities of ordinary water are drunk. The absorption of the chloride of sodium is facilitated by the high temperature of the water, and the action of the bowel is therefore rather diminished than increased, especially if only small doses are taken. Larger quantities have a more considerable effect upon the bowels; they augment the secretions of the skin and all the mucous membranes; menstruation becomes more abundant, and ensues earlier than otherwise; the pulse is accelerated, and the weight of the body sometimes diminished. If the water has been used for six or eight weeks in succession symptoms come on which indicate saturation of the system. Great aversion to the water is then experienced; the tongue becomes furred; thirst is troublesome; and there is a feeling of heaviness in the stomach, with other gastric symptoms. These are signs that the use of the water should be discontinued; or vomiting, diarrhea, and congestions towards the head and chest would follow.

The effects of the waters of Baden-Baden and Bourbonne-les-Bains upon the metamorphosis of matter, are only imperfectly known. The former spa is more a resort for healthy persons in search of pleasure and relaxation than a refuge for patients; beside which, the water of that place, if used for medical purposes, is scarcely ever administered in its natural state. The chief action of the water, when taken as it is, seems to be, to induce constipation, which is probably due to its high temperature, and the use of aperient medicines therefore become necessary. The physicians at Baden-Baden are in the habit of adding to the water Carlsbad salt, bicarbonate of soda, iodide of potassium, lactate of iron, and other medicines. The thermal water used for bathing is generally mixed with Kreutznach motherlye.

The muriated waters are chiefly efficacious in gout, rheumatism, scrofula, and abdominal plethora. They act by exciting the secretions of the intestines, kidneys, and the skin, and thereby reducing the habitual plethora, eliminating the gouty poison, and promoting a healthy metamorphosis of matter. The Wiesbaden treatment is

very successful in chronic rheumatism, *tic-douloureux*, and sciatica. In dyspepsia which is owing to chronic catarrh of the stomach, liver disease, abuse of intoxicating liquors, or deficient secretion of gastric juice, arising from sedentary habits and other causes, the internal use of the Kissingen Ragozi should be combined with warm brine baths. In chronic diarrhea, arising from intestinal catarrh, the Kochbrunnen, of Wiesbaden, is the best water of this class that can be chosen. In abdominal plethora, in weak, irritable, and scrofulous patients, to whom the use of the bitter waters and of Marienbad might prove detrimental, the Ragozi or the Homburg Elisabethbrunnen should be prescribed. If judiciously administered, these waters cause neither constipation nor relaxation of the bowels. The thermals of Wiesbaden are appropriate in the milder forms of abdominal plethora, where constipation, hemorrhoids, and hyperemia of the liver are troublesome; but, in severe forms of this disease Carlsbad is preferable. If catarrh of the bronchial tubes is at the same time present, we may order the waters of Soden or those of Canstatt, which contain a rather considerable amount of sulphates, whereby both the effects of the bitter waters and the muriated springs may be produced. Amongst the English spas of this class Cheltenham is the one most closely allied to Canstatt; but, as the Cheltenham water contains very little carbonic acid, it is inferior to the latter.

Muriated waters often prove curative in catarrh of the larynx and the lungs; those containing a moderate quantity of solids being generally better suited for cases of this kind than the strong muriated waters. They have also been warmly recommended for consumptive patients. They cannot cure phthisis; but if patients affected with this disease suffer, at the same time, from troublesome catarrh, indigestion, and disturbed nutrition, several springs of this class may be taken with great advantage, for allaying the irritation of the respiratory organs, for promoting digestion, and giving tone to the system generally. A prolonged stay at Soden is very beneficial, as the climate there is exceedingly temperate and not subject to sudden changes. The tranquillity of this place contrasts favourably with the noise and bustle of Baden, Wiesbaden, and Homburg, which spas are centres of gambling and fashion, and on this account frequently prove ruinous to patients unable to bear excitement.

Muriated springs are of great therapeutical value in certain diseases of the liver, such as hyperemia of that organ, when

arising from want of exercise, too generous diet, and accumulation of fat; icterus due to catarrh of the mucous membrane of the duodenum, and simple induration and enlargement of the liver. Gallstones are, under the influence of the same treatment, discharged, probably in consequence of the augmented secretion of bile washing out the excretory ducts of the liver. The waters are also successful in tumour of the spleen arising from ague, suppressed catamenia, or hemorrhoids.

Chronic diseases of the skin connected with abdominal plethora, arthritic ulcers, and old gun-shot wounds, are often cured at Wiesbaden and Bourbonne-les-Bains, even if projectiles and pieces of necrotic bone are still present. These latter often pass away after the baths have been taken for some time, after which the ulcers heal. The waters should, however, only be prescribed some time after the accident, and when the inflammation has subsided; for, if they are used in too early stages, the result may be unfavourable. They must also be avoided by persons having suffered from fractures, and where union has only recently taken place. Whether the waters have a tendency to soften fibro-cartilaginous and osseous tissue, as has been asserted, is by no means settled; but, it is a fact that recently united bones often fracture again if these waters are used.

6. *Muriated Lithia Waters.*—Small quantities of lithium are probably contained in all mineral waters which are rich in chloride of sodium; but, until now, we know of only two springs which contain so much lithium that this may be said to be the characteristic feature of the water. These are the Murquelle and the Fettquelle, of Baden-Baden, in the former of which Professor Bunsen has discovered 2·4 grains, and in the latter 0·2 grains of chloride of lithium in the pound of water. They have only within the last two years been medically employed, chiefly in cases of gout and lithiasis; and there is, consequently, as yet no sufficient experience concerning their therapeutical powers; but, from what we know about the pharmaceutical properties of lithia, they may be safely recommended in cases of uric acid diathesis connected with gravel, and in cases of chronic gout. The experience already made at Baden-Baden with these waters is, on the whole, very favourable.

7. *Brines.*—The brines contain a very large amount of chloride of sodium which is extracted from them for commercial purposes.

Those of Rehme, or Oeynhausen, in Westphalia, and of Nauheim, in Electoral Hesse, have the greatest reputation as therapeutical agents. The chief spring of Rehme contains 256, and that of Nauheim 181 grains of table salt in the pound of water. Brines are only seldom internally administered—and if so used, they are diluted with fresh water. Brine baths, on the contrary, are most extensively employed, and their action upon the system has lately been investigated by several observers. From these experiments it appears that the primary effects of the brine baths are only due to their influence upon the cutaneous nerves, for neither chloride of sodium nor water is absorbed by the skin. The chief effects are increase of the waste of tissue and of diaphoresis; at the same time the nervous and muscular system are stirred up, the appetite is increased, the bowels are more easily voided, the abdomen and the chest become expanded, the pulse rises, the sexual desire becomes stronger, and the mind more settled and cheerful. But if the use of the baths is continued too long, febrile symptoms, emaciation, pain in the back, &c., are apt to follow.

Brines do much good in diseases caused by impaired nutrition and innervation, such as scrofula and anemia, and in complaints in which excitation of the skin is desirable, as, for instance, in rheumatism, certain forms of paralysis, and catarrh of the mucous membranes. In scrofula they are most effective where there are no considerable local affections, and in children; while in adults, and where there are glandular tumours and scrofulous diseases of the skin, little or no benefit is to be expected. Scrofulous affections of the mucous membranes, such as subacute and chronic bronchitis, ozena, otitis externa, and catarrh of the vagina, are amenable to the treatment. The remedial powers of brines are often strikingly displayed in scrofulous diseases of the bones, such as caries, necrosis, osteo-porosis, &c., even if the constitution has already given way, and hectic fever should be present.

Brines are not advisable for patients suffering from phthisis; and Rehme should be particularly avoided by them, as the air of that place is too bracing. Patients affected with secondary syphilis have also sometimes been sent there. They experience no benefit whatever from the treatment; but, on the contrary, become so much worse that in cases where the diagnosis is doubtful, these baths may be advised as a valuable means for recognizing the nature of the disease.

Brine baths are often said to be apt to produce congestion to the

head, and apoplexy; but this is by no means the case provided they are judiciously used. In cases of paralysis after typhoid and other fevers, or after parturition, they frequently do a great deal of good. In these affections, and in hysterical, rheumatic, and reflex paralysis, as well as in lead palsy, their use should be combined with Faradization of the suffering parts. They produce absorption of rheumatic and gouty effusions, and may arrest the further growth of fibrous tumour of the uterus. They can be strongly recommended for decrepitude in old persons, and in such as have become prematurely old; they also have a favourable influence upon the evolution of persons who have just attained the period of puberty, and upon that of the fetus.

8. *Iodo-Bromated Muriated Springs.*—These waters, the most important amongst which are those of Kreuznach, Hall, Dürkheim, Wildegg, and Castrocaro, contain chiefly chloride of sodium (from 38 to 404), iodide of sodium (0.02 to 0.96), and bromide of magnesium (0.01 to 0.51). Most of them are cold; the only iodated thermals in Europe being those of Montecatini, in Tuscany (92° F.); and of Lipsick, in Slavonia (115° F.).

Very little is at present known concerning the effects of the iodo-bromated muriated springs upon the general metamorphosis of matter. The action of such waters depends chiefly upon the proportion of iodine and bromine to the quantity of other salines found in them. There are some springs, as, for instance, those of Castrocaro, which contain a comparatively large amount of iodide of sodium, and bromide of magnesium; but, at the same time, so much chloride of sodium that they must be considerably diluted before they can be used internally, whereby the production of the specific effects of iodine and bromine is retarded; on the other hand, such waters as contain comparatively little iodine and bromine, as well as only little table salt, and which can therefore be used as they are, will more readily cause the peculiar effects of the two former substances. If baths of these waters are taken, neither iodine nor bromine is absorbed by the skin. Taken internally, the waters promote the secretion of saliva and the appetite, and stimulate the mucous membranes generally. If they, at the same time, contain a certain amount of sulphate of soda, the bowels are likewise acted upon; and large quantities promote diuresis. A too prolonged use of them may produce the well known symptoms of iodism.

As therapeutical agents, these waters are chiefly successful in

serofulous infiltrations of the glands, where brines fail to afford relief; also in serofulous diseases of the skin, particularly lupus, sycosis, lichen, and serofulous ulcers; and even in caries and necrosis they not unfrequently prove curative. While brines are more beneficial in cases of short duration, and in children, the waters we are now treating of are chiefly effective in cases of long standing and in serofulous affections of adults.

They are likewise to be recommended in chronic metritis and oophoritis, with consequent anomalies and swelling of the ovaries; and in enlargement of the prostate and the testicle, when this is due to inflammation. In fibroid tumour of the uterus the waters act, according to Scanzoni, chiefly by reducing the size of the womb, after which the troublesome symptoms which are owing to the enlargement of the organ, such as hemorrhage, uterine colics, &c., disappear. In tumours of the ovaries, Scanzoni does not advise the use of the waters if the tumour is of a carcinomatous character, and so long as there are symptoms of congestion; but in other tumours of this organ their further growth may be arrested or retarded. The waters are also efficacious in tertiary syphilis, more especially in patients who have taken much mercury, and in whom syphilis is associated with serofula.

The waters of Hall, in Austria Proper, enjoy a special reputation in cases of bronchocele; and it is generally known as Kropf-wasser. It is true, that in lymphatic bronchocele where the thyroid body is infiltrated with colloid matter, favourable results may be expected from this spa; but in other forms of this disease the Kropf-wasser does not justify its name.

9. *Earthy Springs.*—The chief contents of these waters are sulphate and carbonate of lime, to which is added a certain amount of chloride of calcium, carbonic acid, and chloride of sodium; and the most important earthy springs are those of Wildungen, Leuk, Lippspringe, Weissenburg, Bath, Lucca, and Pisa. The quantity of carbonate of lime is from 2 to 10·2; that of sulphate of lime from 0·5 to 17·2.

Most springs of this kind are thermals, their temperature varying from 81 to 123. No exact researches have as yet been made concerning the physiological effects of earthy springs. If drunk, a feeling of warmth is produced in the stomach, the appetite is increased, and digestion promoted. Constipation sometimes follows the use of small doses, while large quantities, on the contrary,

cause diarrhea. In some persons even small doses of these waters produce fulness in the head, sleepiness, vertigo, and pressure in the epigastrium. The excretion of the kidneys and the skin is generally increased. The water being very hard, baths of it cause a rather unpleasant sensation in the skin. Their action seems to be, on the whole, exciting and astringent. It is, however, very different according to the temperature of, and to the length of time the patient remains in, the bath. If they do so for a considerable time, such as five hours and more every day, for three or more weeks consecutively, as is the custom at Leuk, Schintznach, and other Swiss spas, a peculiar eruption appears on the skin which sometimes resembles herpes; in other cases erythema, or the scarlet rash, or small thickly-studded papulæ are formed.

The Wildungen water is distinguished from the other spas of this class by containing a very considerable amount of free carbonic acid by which its effects are much modified. It has a special and well deserved reputation for its curative powers in gravel and lithic diathesis. It is no solvent of renal calculi, nor of stone of the bladder; but it is a capital diuretic, and not only promotes the elimination of gravel and renal calculi, but, by its tonic action on the mucous membrane of the urinary passages, seems to prevent the formation of fresh concretions. It is also much used for chronic catarrh of the bladder, neuralgia of the urethra and the neck of the bladder, dysuria, ischuria, and incontinence of the urine.

The waters of Leuk are mostly employed in atonic ulcers and in chronic diseases of the skin, such as eczema and psoriasis. Bathing is of chief importance in the thermal establishment of that place; and there can be no doubt, that very obstinate cases of skin disease in persons of torpid constitution may be improved or cured by the Leuk treatment, a modification of which, according to the principles of modern medicine is, however, to be strongly recommended to the physicians of that spa. The baths are also much used for gouty and rheumatic effusions, and the functional disturbances caused thereby, especially in patients of impaired nutrition and diminished activity of the skin.

The spas of Lippspringe, in Westphalia, and of Weissenburg, in the Canton of Berne, are of much repute as remedies for diseases of the respiratory organs. At Lippspringe it is chiefly the nitrogen ascending from the springs, and which is inhaled by the patients, to which the beneficial effects of the treatment are ascribed, while the physicians of Weissenburg insist upon the lime being the cause of

the curative effects obtained. It seems that in the incipient stage of consumption, where there is much irritation and tendency to inflammation, together with bloody expectoration, much improvement may result from the use of these spas. Time will show whether they are really successful in the latter stages of this disease.

Bath, Pisa, and Lucca, have often proved successful in gout and rheumatism, certain forms of paralysis, atony of the stomach and intestines, and diseases of the skin.

10. *Indifferent Thermal Waters.*—These contain only a few grains of salines (from 2 to 4), and are of a high temperature. The water is limpid, colourless, or slightly blue, devoid of odour and of any physical peculiarities different from those of ordinary warm water. The temperature in the several spas of this class, the most important of which are Gastein and Wildbad, is from 81° (Landeck) to 120° (Teplitz). The Wildbad water has exactly the temperature of the blood. All these waters, but especially those which have a somewhat higher temperature, possess very remarkable physiological and therapeutical properties. Baths of them promote the action of the skin, and excite the peripheral nerves; and, by reflex action, the nervous centres are affected, especially if they are weakened. Effects of the latter kind are chiefly caused by such thermals as issue at high altitudes; and it is probable that the diluted air and the diminished pressure which exists in those regions essentially contribute to the effects of the waters.

The waters of Gastein are chiefly used for bathing. These baths, which are taken in tubs of stone, are not exciting in the ordinary meaning of the term; for persons with habitus apoplecticus, heart disease, and even hemiplegic patients shortly after a seizure, often bathe in this water without any unpleasant consequences, but are, on the contrary, improved by it. The pulse is only accelerated if the water is very hot; but if the temperature is somewhat cooler the pulse is retarded. Gastein is mostly resorted to by decrepit, old, and paralytic persons, who are, by the use of the baths, often restored to comparative health and vigour. The average duration of the baths is from a quarter of an hour to an hour, and even more; and that of the treatment, from four to six weeks.

The baths of Wildbad, in Wurtemberg, are chiefly taken in piscines, or swimming baths. These are large reservoirs the soil of which is covered with fine sand, through which the water rises from

the depth at a temperature just suitable for bathing. It is therefore not necessary to heat or cool the water, and a constant renewal of it is also rendered easy. Bubbles of nitrogen, in which the Wildbad water is very rich, continually glide along the surface of the body, and produce a sort of titillation which is by no means unpleasant. If the stay in the bath is too prolonged, weariness, fatigue, headache, and febrile symptoms are apt to follow. The baths prove most beneficial in the several forms of rheumatism and morbid affections consequent upon it, even when of a severe kind and of long standing.

The springs of Pfäfers, in Switzerland, are used for drinking as well as for bathing. This water agrees very well with the stomach even of weak persons. The elimination of urine and the perspiration are increased by its use; but it has no action on the bowels. The baths have different effects according to their temperature and duration. The usual dose for drinking is from four to eight tumblerfuls. The climate and neighbourhood of Pfäfers are so gloomy and wild, that patients who require more exhilarating and genial surroundings had better not be sent to that spa. In this respect Ragatz is more pleasant; but, as a large number of tourists are continually on the move at this latter place, it is not suited for patients to whom quiet is necessary.

The waters of Teplitz, in Bohemia, are of great therapeutical value in all forms of paralysis and hyperesthesia in which there are no such structural diseases as would preclude the possibility of a cure. Besides the thermal baths, the douche, moor-baths, and moor-cataplasms, are used there. The Hauptquelle of this place has a temperature of 120° .

The water of Schlangenbad, in Nassau, is almost exclusively used for bathing. It has a soft velvety feel if taken between the fingers, and imparts a most pleasurable sensation to the skin. Baths of this water render the skin exceedingly soft, supple, and delicate, and are therefore extensively used by ladies, especially by those in a somewhat advanced age. They also do good in irritability of the nervous system, especially if due to, and connected with, disturbances of the menstrual function, neuralgic dysmenorrhea, &c.

The springs of Warmbrum, in Silesia, and of Tüffer, in Styria, are applicable in all cases for which the other indifferent thermals are used. Those of Clifton, Buxton, Landeck, and Plombières, are, on account of their lower temperature, suitable for the milder forms

of those diseases in which Gastein and the other more powerful spas of this class are chiefly employed.

11. *Chalybeates*.—In chalybeate springs, bicarbonate of protoxide of iron is the principal ingredient; and this is generally accompanied by carbonic acid and bicarbonate of manganese, by which the effects of the iron are much modified. The most powerful chalybeates are those in which, with the exception of iron, only a small amount of solid ingredients and much carbonic acid is contained. The quantity of iron found in the true chalybeates varies from 0·25 to 0·8 grains in sixteen ounces of water; springs containing less iron than 0·2 are no chalybeates. True chalybeates are generally limpid and devoid of smell; the taste is that of carbonated water slightly mixed with that of iron. The physiological action of carbonic acid is, in many respects, similar to that of iron. By small quantities of both digestion is promoted, the activity of the heart, and muscular and nervous power strengthened. The acidulous chalybeates are most admirable remedies for anemia and all morbid conditions consequent upon it, such as certain forms of indigestion, constipation and diarrhea, amenorrhea, neuralgic dysmenorrhea, blennorrhea of the uterus and the vagina, sterility, and tendency to abortion. In certain diseases of the nervous system, in headache, neuralgia in the back, chorea, tremor, paralysis, hypochondriasis, and hysteria, the spas of this class also prove beneficial. The waters of Schwalbach, in Nassau, Spaa, in Belgium, and Pyrmont, in the Principality of Waldeck, enjoy the greatest reputation for their curative powers. Those of St. Moritz, in the upper Engadin will, no doubt, shortly rival in fame its fellows of more ancient renown.

A second class of chalybeate springs are those called saline acidulous chalybeates, which, besides bicarbonate of iron and carbonic acid, also contain a certain quantity of carbonate and sulphate of soda, and chloride of sodium. They act beneficially in most diseases in which the alkaline acidulous waters, the alkaline salines, and the muriated waters are employed, especially if a certain degree of anemia is associated with those complaints. In many cases it is difficult to decide whether a true or a saline acidulous chalybeate should be prescribed; but, it may be laid down, as a general rule, that in pure anemia the former, and in anemia complicated with abdominal disturbances, the latter are preferable. The most important spa of this group is Franzensbad, in

Bohemia, where several saline chalybeates of unrivalled composition rise from mica-slate. The amount of iron contained in the principal spring of this place is 0.37, that of sulphate of soda 25.2, that of carbonate of soda 4.3, that of chloride of sodium 9.3 grains, and that of carbonic acid 4.5 cubic inches in the pound of water. The iron mineral moor which is employed for baths and cataplasms, has a most invigorating influence upon the system. Moor-baths are chiefly used in certain forms of paralysis, gout, and rheumatism, in patients who are below par.

12. *Sulphurous Waters.*—The physiological effects of the sulphurous springs, the chief contents of which are sulphureted hydrogen or sulphurets of metals, are widely different according to their temperature, and the other solid and gaseous ingredients contained in them. Sulphurous thermal springs considerably accelerate circulation. The waters of Eaux Bonnes, when taken internally, produce agitation, sleeplessness, and general excitement of the system, the same as is caused by drinking strong coffee. The power of the muscles appears increased, the complexion becomes florid, a sensation of heat in the pharynx, and pains behind the sternum and between the shoulders are felt. Sometimes there is increased appetite, pain in the abdomen, and constipation.

The waters of Saint Sauveur, if used for bathing, have a sedative effect on the system. They contain a large quantity of Barègine which imparts an oily feel to the water. On the other hand, the springs of Barèges are very exciting. They augment all secretions, and after a few days use, produce febrile symptoms.

Exact physiological researches on the effects of the cold and thermal sulphurous springs are almost entirely wanting. The only observer who has made a few experiments on this subject is Dr. Böcker, who was led to the conclusion that after the use of such waters, the exhalation of carbonic acid by the lungs, and the elimination of uric acid by the kidneys were increased.

The therapeutical action of the sulphurous spas is due to the sulphur, the water, its temperature, and the salines contained in it. They are extensively used in diseases of the skin, and prove particularly beneficial not only in cases of acne, but also in the milder forms of pityriasis, psoriasis, prurigo, and sycosis. In a variety of cases where effusions are to be absorbed, as in swellings of the joints, in caries, and necrosis, in old gun-shot wounds, and in gout and rheumatism, they are used with advantage, provided all inflammatory

symptoms have subsided. In ozena, clergymen's sore-throat, chronic catarrh of the larynx and the bronchial tubes, they frequently afford relief. In chronic poisoning by mercury, lead, and copper, they favour the elimination of the poison and promote recovery. They have been much praised as remedies for abdominal plethora, and more especially for hemorrhoids; it seems, however, that they only do good in such cases if, besides the sulphur, a certain amount of salines is contained in them, or if baths of a high temperature are given. Finally, they may serve as means of diagnosis in cases of secondary syphilis. Under their use syphilitic affections of the most various kinds are very much aggravated; and if no visible symptoms of the distemper exist, but this is latent in the blood, it frequently manifests itself by specific affections of the mucous membranes and other parts, after the sulphurous spas have been used for a week or fortnight. The sulphurous waters are employed externally and internally, and mineral mud-baths form a valuable auxiliary to this treatment.

The most important sulphurous thermals are those of Aix-la-Chapelle; the principal spring there has a temperature of 131° , and contains 0.07 grains of sulphuret of sodium, and 20 grains of chloride of sodium. The waters of Baden, near Vienna, are, on account of their lower temperature (from 89° to 95°), inferior to those of Aix-la-Chapelle, especially for cases of rheumatism and rheumatic paralysis; but, as the air in Baden is much more bracing than at Aix, the former spa is more appropriate for catarrh and scrofula. Amongst the Pyrenean sulphurous baths, those of Bagnères de Luchon are the most important, and prove useful in most complaints in which Aix and Baden are generally prescribed.

ART. VI.—*Contagion Viewed Practically.* By D. C. O'CONNOR, A.B., M.B., T.C.D., L.R.C.S.I., Professor of Practice of Physic, Queen's College, Cork.

A subject viewed scientifically becomes a widely different thing from the same subject when viewed practically. In the former manner we ascertain the truth of a general law, or a fact. In the latter we view the same things in their relation to ourselves or our interests. For instance, nobody doubts, that during a thunder storm, he may be killed by lightning. Still, this occurrence is so rare

that practically it excites no fears, except in the minds of the most timid. From time to time some one dies of hydrophobia; nevertheless, with the exception of mayors in the dog days, no one expects an early death from this cause. In like manner, it is a fact scientifically established, that the persons of those affected with certain diseases produce a poison capable of transmitting the same disease to others. But again the questions of practical importance to determine are:—What are these diseases in which this property resides? What is the amount of danger in such cases? I believe that on both these subjects much error or exaggeration is to be found in some medical writings—amongst many members of the profession, and still more amongst the general public. It is with the view of discussing it rather than with the vain hope that any reasoning of mine would lead to determinate results in points of so much difficulty, that I now bring the subject under notice. The difficulty which is inherent, and will for ever attach, to this subject, arises from the fact, that there is no disease contagious which is not, at the same time, epidemic. To the latter influence every person is alike exposed; and, in any given case, it is not possible to assert that it was not from this source, rather than from contagion, the poison was imbibed. If a person were found dead in the streets of a town which was being shelled by an enemy, we would not infer, without very positive proofs, that he came by his death through private malice. Neither could we bring home a charge of theft against a person merely because he had a bad character, if there were several others in the house with him at the time the property was abstracted. The same difficulty exists in the proof of every case of supposed contagion, namely, that it might be explained by another cause equally potent, and to which the patient was as much exposed. It must be admitted, however, that sufficient proof, grounded on the highest probability, has been afforded, that some diseases are contagious; and assuming such to be the fact, I shall confine my observations to an inquiry into the manner of their propagation, and whether some diseases might not be removed from this category which are generally included in it.

Some authors classify as contagious the idiopathic fevers both of this climate and the tropics—the plague, cholera, influenza, dysentery, erysipelas, ophthalmia, gangrene, and a host of others. Whilst some, again, limit the number to the exanthemata and typhus fever. This diversity of opinion would show that the proof cannot be very positive in many of these diseases as it does not coerce the

judgment of men of ability with both power and opportunity for observation.

Admitting the correctness of the second classification, let us inquire into the arguments which are adduced to prove the existence of contagion in the diseases not included in it. After much discussion and much human misery from quarantine laws, it is practically settled, that yellow fever is an epidemic, not a contagious disease. The same might be said of the plague, Asiatic cholera, influenza. Opinion is not so settled with reference to erysipelas, ophthalmia, dysentery, gangrene, and puerperal fever, about which a few words may be said before entering on the other branch of the subject.

The proof of contagion in all these diseases is derived from the fact of several cases appearing, at the same time, in hospitals, jails, workhouses, the holds of ships, and other ill-ventilated places. It is never asserted that in most of these diseases contagion is to be dreaded from an isolated case—puerperal fever being the exception—which, by some, is asserted to be most virulently contagious. Still, the question in all these cases might be asked:—May not the spread of these diseases in the places referred to be due to epidemic influence existing in the atmosphere, and intensified by the bad air of the locality. These diseases are never found to spread in an hospital unless when they exist in a less obvious form amongst the general community; and it might be readily asserted that the hospital and workhouse in which they spread must be over-crowded and ill-ventilated. It is only such circumstances reveal to us that most hospitals, notwithstanding the utmost care, are not conducive to the general health of the inmates, apart from the medical treatment these receive.

We do not know what is the change in the atmosphere which, under the same exciting cause, will produce one form of disease at one time, and a different form at another; but we can readily see that where the atmosphere is most stagnant, equally in the lanes and alleys of the poor as in hospitals, this condition will exist in the highest degree. At the present time I am in attendance on a male and a female orphan asylum, entirely separated, and without any communication existing between them. Still the same form of light catarrhal ophthalmia exists in each. If the child be removed from the poisoned atmosphere, the disease quickly disappears, but returns on his or her re-admission. On inquiry, I find the same disease is prevalent through all the poorer districts of the city. In every form of epidemic disease—those never asserted to be contagious

(I may instance the mumps)—several persons resident in the same house become simultaneously affected, while the inhabitants of adjoining houses remained entirely exempt. In the outbreak of Asiatic cholera in the Cork Workhouse its ravages were confined to the male wards several weeks before it appeared amongst the female inmates—showing, that while the poison exists in all parts of the atmosphere, it might assume increased power of infection in some localities.

Of all epidemic diseases—the contagious character of which is doubtful—none has excited so much interest as puerperal fever, from the belief entertained by many, that the physician, whose duty it is to cure, often carries to his patient a most malignant disease. And still the evidence afforded of this fact is such as would not stand for one moment in the ordinary affairs of the world. If a man were sent to trial for manslaughter, on similar testimony, the question of his guilt would not be entertained for one moment; and why should old women's stories, told by timid physicians, be accepted as arguments by the medical profession? In this city we recently had, unfortunately, ample opportunities of witnessing the development and spread of this disease, and during the whole time no one instance has been brought forward which would support the opinion that it was contagious. It has been remarked, during the prevalence of this disease amongst us, that erysipelas also prevailed extensively; and it will be in the recollection of the members of the Cork Medical and Surgical Society that several papers were read, at the same time, on diffuse cellular inflammation and phlebitis, as a consequence of wounds or bruises. Is not the condition of a puerperal female precisely analagous to that of a person who has received a bruise or hurt? The tenderness and pain which invariably exists for some days in the uterus, even in the most favourable cases, shows that such violent muscular exertion and strain cannot have taken place without some injury. If a man has got a slight wound or bruise, or even a blast of cold air during the prevalence of erysipelas, we are not surprised to find this disease has seized on the injured part, and changed into its own character an inflammation which would otherwise be innocuous. Why should an injured uterus be exempt from similar consequences? It will be said there is often but little local pain in puerperal fever, and that there is sometimes no trace, after death, of disease in the uterus. Both these cases I believe to be exceptionable; still they do not prove that inflammation did not exist during life, as every

day's experience shows us that fatal disease might exist in internal organs without pain, and erysipelas in external parts might produce such a fever as would prove fatal, without leaving any trace of the original affection on a *post mortem* examination. We can, then, readily understand that an erysipelatous inflammation of the uterus may kill, without the spreading of the disease to the peritoneum—which, however, in the vast majority of cases, becomes ultimately engaged. Supposing, then, this disease to be an inflammation, peculiar in its character from the nature of the organ affected, and the condition of the patient at the time, it would require very strong proofs to establish its contagious character; still more to establish the truth of such anomalies as the following:—That the patient affected with puerperal fever produces a poison capable of being communicated to other puerperal females, and to no others, male or female; and that the puerperal patient is free from this danger, except for a period of about one week after her confinement! In the whole range of medical science there does not appear to be anything similar to this. Human beings imbibe with impunity atmospheric poisons which destroy cattle, and *vice versa*—but no individual of our species is affected with any disease to which every other is not more or less liable, making allowance for difference of sex and race. There is not on record a more striking illustration of the point I am now inquiring into, than the prevalence, at one time, of trismus infantum in the Dublin Lying-in Hospital, and its subsequent disappearance on a more perfect ventilation of the wards. But for this latter fact, the disease would be classed with puerperal fever amongst the contagious diseases.

Having thus briefly considered the question of contagion in diseases in which any doubt exists, let us inquire into the mode of its propagation in diseases admittedly contagious, namely, the exanthemata, typhus, and typhoid fevers. During the prevalence of these diseases there are two sources of infection, namely, the poison existing in the atmosphere, and an emanation from the body of the person affected. In addition to exposure to this poison, the individuals must be predisposed to its reception; of which some striking instances have come under my notice.

Prior to the appearance of Asiatic cholera in the Cork workhouse, in 1849, I was sending to the fever hospital a daily average of five or six patients from the male wards; as soon as the new epidemic appeared, not a single case of fever presented itself any longer amongst the male inmates, although they continued to arise in

the female wards for nearly a fortnight afterwards, when a similar result followed the outbreak of cholera in that part of the house. It is evident that the victims of cholera were those who previously would have been attacked with typhus fever, from the same predisposing cause. Though it is not always possible to assign a reason why one individual will be attacked by the poison when another equally exposed escapes. Still some striking instances have come under my notice which show that this is sometimes ascertained and remedied. At the period just referred to, it was found that the men engaged in burying the dead fell victims to cholera in great numbers; and at the time it was believed to be occasioned by contagion, arising from their close proximity to the bodies of those who had died of the disease. However, it was suggested that the burials should no longer take place at night, and that those engaged in that office should be very well fed and clothed; and from that time forward these men enjoyed almost an immunity from the disease. The same might be said of hospital attendants, and from the same cause, that they were thoroughly well fed.

If we compare the two sources of contagion to which I have referred, and examine facts, the second will, I think, almost practically disappear as a means of propagating disease. If we could, with justice, diminish the terror which exists in the public mind on this subject, we would prevent much misery, and remove a source of disease to which no cause so strongly predisposes as fright. Some, if they meet the fever-chair in the street, or converse with some one who has had intercourse with a patient in fever, or by accident find themselves in the neighbourhood of a house where the disease exists, go home in great misery, and perhaps fall a victim to their own terrors. The writings of some physicians and the example of others, give grounds for these apprehensions amongst the ignorant public. Until recently the physicians attached to the fever hospital in this city were prohibited from practising midwifery, lest they should contaminate their patients; and during the late epidemic of puerperal fever some physicians refused to attend in such cases, even as consulting physicians, lest they should carry the disease to their own patients. It was amusing to witness the ablutions practised by some of the older physicians after attending a case of fever. One that I knew took off his coat, mixed some spirits and water, with which he washed his face, hands, and arms. Lady Macbeth washing out "the damned spot" had not a more solemn and tragic countenance.

The grounds on which physicians entertain such a dread of contagion from personal intercourse with the sick rests on the fact that dispensary medical officers, students, and clergymen suffer from the disease in a larger proportion than any other class. But it has always appeared to me, that it was not from the patient the disease was acquired in such cases, but from the atmosphere in which he resided, and from which he himself had imbibed the poison. In the cabins of the poor, every inmate is attacked nearly simultaneously, even though the first assailed should be removed to a fever hospital. When I was physician to the workhouse I invariably remarked that a few cases of contagious disease introduced from town, never communicated the disease to the other inmates, but that at some subsequent period the atmosphere of the place became, as it were, infected in some unknown manner, and then large numbers continued to be assailed, till the disease exhausted itself, which it did long before it had reached all those who were liable to it.

The following illustrative fact came under my notice:—During the winter 1846–7, down to the end of April, a most dreadful fever raged in the Cork workhouse. No official escaped the disease except one chaplain and myself. Nevertheless, I wrote to an insurance company in the month of May as follows:—"If I wished to escape all danger from fever I would go to reside in the workhouse," so completely had the fever left it, though it still raged among the more respectable inhabitants of the city, and although a new population was constantly arriving at the workhouse, not previously exposed to its contagion. If it were solely or principally from the person fever spread it ought to increase in a sort of arithmetical progression in fever hospitals and workhouses, till they became pestilential. Still there is much less danger in visiting the former than attending a solitary patient in an infected house or district inhabited by the poor.

The following fact will show how short a distance contagious miasma is capable of spreading when brought into contact with pure air:—At the period already referred to, a quadrangular building was partly occupied as an auxiliary workhouse and fever hospital—one side being in the possession of the governors of the lunatic asylum. From all sides windows opened into a common yard. Fever, of the most dreadful malignancy, broke out amongst the workhouse inmates; whereas, not a single case occurred amongst the lunatics, because they were not crowded and were well fed.

During the whole of my experience, extending now over a period of thirty years, I have never met a case where fever spread from one member of a family to another in a respectable house, although, we know how close affection brings them together, as attendants, or in their dying moments, or in convalescence. I have made inquiries amongst the physicians of greatest experience in this city, some dead and some still living, and find that their experience corresponded with my own. Nevertheless, we find many, even physicians, who assert that not only may you imbibe disease at the sick bed, but carry a stock of it with you to all your patients and friends. In this city we practice every branch of the profession, "*omnia possumus omnes.*" We pass from the fever to the midwifery case, and still it has never entered into any one's head to think that fever has been communicated in this manner to his puerperal patient. In the recent outbreak of scarlatina (the most contagious of all diseases), not a single instance occurred where a puerperal patient was attacked with the disease, unless where other inmates of the same family were ill at the same time, or previously.

If disease were communicable in this way, the families of physicians must suffer more than others; still, in my own instance, though living in an atmosphere of scarlatina, none of my children acquired that disease; and on inquiring of my professional friends through the city, I find their families have had nearly a similar exemption. I know stories are told of a physician having had several of his patients attacked with puerperal fever, and argued from this that he had communicated the disease to them; and stories are told of a trunk having been opened, and of those in its vicinity being attacked with fever. The greatest errors under which mankind have laboured at all times arose from placing in the relation of cause and effect, facts that were only coincident or consecutive. The argument "*post hoc ergo propter hoc,*" furnished abundant evidence to sustain for centuries a belief in astrology, to cause witches to be drowned, to make palmistry a science, and dreams prophetic; and, until lately, to cause letters from the tropics to be roasted and perforated, in order to kill or let out the poison. But medical logic should be much more strict for the sake of the character of its professors, and for the great interests involved in its conclusions.

I have thus endeavoured to show that many diseases supposed to be contagious are but localised epidemics; that contagion from the person affected has but the smallest possible influence in producing

disease, when the surrounding atmosphere is not impure, and that, consequently, its transmission by those parties is practically impossible.

ART. VII.—*Some Observations on the Administration of the Vapour of Chloroform in Obstetric Practice.* By EDWARD B. SINCLAIR, A.M., M.D., T.C.D., Vice-President of the King and Queen's College of Physicians in Ireland.

THE practice of inducing anesthesia by means of the vapour of chloroform, in cases where surgical interference is essential, has now become universal. With a few exceptions, when the use of chloroform is contra-indicated, for obvious reasons, it is the prelude to all operations of any magnitude. The advantages of anesthesia thus produced, in connexion with the major operations, are so great as far to outweigh the chances of any immediate or remote risk that may attend upon the chloroform inhalation. In a word, chloroformization is a permanent institution in surgical practice, not to be overthrown till a more perfect anesthetic has been discovered. Not so in obstetricity. Here opinion is much divided. After years of experience, it is admitted, by not a few, that the perfect immunity from danger, which was at first asserted to be peculiarly attached to it in labour cases, cannot now be accorded to it. There is no doubt that considerable danger is connected with the exhibition of chloroform, which, though not frequently experienced, is yet sufficient to contra-indicate its general use in ordinary labour, where, apart from its administration, no danger can be said to exist. By degrees this opinion is becoming more general in this country, and the indiscriminate administration of chloroform vapour in obstetric practice is by no means so frequently adopted by our practitioners, now, as it was soon after the discovery of the use of the agent. Many practitioners are of opinion, however, that there are some cases of labour in which chloroform inhalation is most beneficial, and such make a selection of cases in which to administer it. There are some who consider that the drug should be banished altogether from the practice of midwifery. In fact there exist three opinions on the subject, namely:—Firstly, that it should be given in all labour cases; secondly, that it should be administered only in certain selected cases; and, thirdly, that it should never be given at all. Prejudice

may, of course, influence each section of opinion; to me the middle course appears to be the one most consonant with reason. To assert that because the indiscriminate administration of chloroform in obstetric medicine, has sometimes proved dangerous, or even fatal, it should be therefore excluded from obstetric practice altogether, is simply to argue against its use from its abuse.

During my years of office, and those of my friend and colleague, Dr. George Johnston, in the Dublin Lying-in Hospital, we very frequently administered chloroform vapour, yet we never met with an immediately fatal casualty; nor a death *remotely* caused by its use, so far as we could form a judgment. It certainly was my opinion that there existed a disposition to draining, after and during the third stage of labour, in those cases in which the anesthesia had been complete, or who had been kept under the influence of the vapour for any considerable time. Nevertheless, there did not occur one single case of alarming hemorrhage which we could indisputably lay to its charge. Under no circumstances could I come to the conclusion that our death-rate was increased, disease induced, or convalescence prolonged, by the use of this agent.

Amongst the strongest opponents of chloroform in midwifery practice, in this city, was a gentleman who lately published a paper in a recent number of this Journal^a against its use in that branch of medicine. It is with much regret that I have to state this gentleman is now no more. In the midst of a successful career, with a bright prospect before him, he has been unexpectedly hurried from this world by death, who has recently been so relentless towards the members of our profession in this country. In the paper alluded to the author has brought forward the statistics of Dr. George Johnston and myself to prove the baneful effects of chloroform inhalation in labour cases. In this paper our statistics are also contrasted in rather an unfavourable light with those of Dr. Collins and Drs. Hardy and M'Clintock. I should not, however, now, under the unhappy circumstances of the case, have obtruded these observations on the profession were it not at the express wish of the Editor of this Journal, at the desire of my friend and colleague, Dr. George Johnston, and last not least, for the interests of science. The paper in question, if carelessly perused, is one well calculated to mislead; and I should much regret if the sufferings of humanity were in the slightest degree left unmitigated, in consequence of the opinions and reasonings therein advanced. The allegations against

^a Vol. xxxv., p. 353.

the administration of chloroform in midwifery practice in this paper are:—"That when inhaled during labour" chloroform "very fruitfully predisposes to hemorrhage, puerperal inflammation, chest affections, and to other diseases detrimental to health and life, which it aggravates if given during their presence." "It also lays the foundation of diseases to arise at a more distant period, and thus increases the mortality in child-bed, and subsequent thereto." And, lastly, that by its means puerperal fever, having been raised, "may become epidemicized." In support of these allegations reference is made to the published reports of the Dublin Lying-in Hospital, viz., to those of Dr. Collins, Drs. Hardy and M'Clintock, and Drs. Johnston and Sinclair. "Thus," continues the author, "in the first report are recorded 16,414 deliveries and 164 deaths, or 1 in 100; in the second, 6,634 deliveries and 65 deaths, or 1 in 102; whereas in the third, 13,748 deliveries are given, and 163 deaths, or 1 in 84!! *But of these last 13,406 cases were not chloroformed, of which only 133 died, or 1 in 100; and of the remaining 342, who took the drug, 30 died, or 1 in 11!!!*" So that the argument is—inasmuch as the mortality was less in Dr. Collins' mastership, and during the period in which Drs. Hardy and M'Clintock were assistants to the hospital, when chloroform was not administered, than it was when Drs. Johnston and Sinclair were assistants, when it was administered—therefore the increased mortality was caused by chloroform. Now, before I proceed to inquire into the question as to whether diseases, &c., were caused by chloroform during our term of office (*i. e.*, Dr. Shekleton's mastership), I shall lay before the reader what the mortality, as stated in each of these reports, really was; and, first, I shall quote from Dr. Collins. At page 365 is to be found the following table, showing the cause of death amongst those delivered during his term of office:—

"*Diarrhea,	.	.	.	.	.	1
*Typhus,	.	.	.	.	.	5
Rupture of uterus and vagina,	.	.	.	.	.	32
Uterine hemorrhage,	.	.	.	.	.	11
*Puerperal fever,	.	.	.	.	.	59
*Inflammation of brain,	.	.	.	.	.	3
*Ulceration of intestines,	.	.	.	.	.	3
Hectic fever,	.	.	.	.	.	1
*Grief, apparently,	.	.	.	.	.	2
*Stricture of intestines,	.	.	.	.	.	1
Effects of tedious and difficult labour,	.	.	.	.	.	11

Convulsions,	2
Sloughing of vagina,	6
*Hydrothorax,	2
*Pericarditis,	1
Peritoneal inflammation, placenta retained,	4
*Abscess in spinal canal,	1
*Lumbar abscess,	1
*Phthisis,	2
*Diffuse cellular inflammation,	1
*Abscess in abdomen,	2
*Acute bronchitis,	1
*Anomalous disease,	12

“ Thus,” continues Dr. Collins, “ of the 16,414, 164 died, or in the proportion of 1 in 100. If from this number we deduct the deaths from puerperal fever, which may be considered accidental, the proportion becomes greatly diminished, viz., to 1 in 156 deliveries; and again, if we deduct those deaths from causes not the result of child-birth (which are marked * in the table) the mortality from effects arising in consequence of parturition is vastly reduced, viz., to 1 in 244.”

I shall now turn to the report of Drs. Hardy and M'Clintock, which shows the mortality of Dr. C. Johnston's mastership for a period of three years, and comprises an account of 6,634 deliveries, of which 65 died, or 1 in 102. At page 2 of this report their mortality can be inspected as follows, an asterisk being “ prefixed to those cases in which a non-puerperal disease was the cause of death:—

“ Phlebitis and arthritis,	24
Ruptured uterus,	9
Peritonitis,	7
Sloughing of uterus and vagina,	6
Effects of hemorrhage	5
*Bronchitis and pneumonia,	3
*Phthisis,	2
*Anasarca,	1
*Scarlatina,	1
Convulsions,	2
Mania,	1
*Jaundice,	1
*Tumour on bronchus,	1
*Anomalous disease,	2

"Now," continues Drs. Hardy and M'Clintock, "if, as is but fair, we deduct the 11 cases, in each of which the cause of death was a strictly non-puerperal disease, and also four others, where the patients were, upon admission, in a dying state, the average mortality will be reduced to 1 in 132; and, further, if puerperal fever be regarded as an accidental occurrence, and therefore be excluded, the proportion of deaths will be vastly lessened, viz., to 1 in about 250."

If page 14 of Dr Johnston's and Sinclair's report (which gives the account of 13,748 deliveries, of which 163 died, or 1 in 84) be now consulted the following remarks and observations will be found:—"The proportion of women dying from all causes was 1 in 84, and nearly one-third. In order, however, to arrive at a correct idea of the mortality of the hospital, we may be permitted to deduct, from the total number of deaths, those who were admitted in a dying state, which latter amounted to 17. We thus leave a balance of 146 dying from all causes, or, *quam proximè*, 1 in 94. Then if we deduct, from the above 146 fatal cases, those whose deaths had arisen from visitations of puerperal epidemic, viz., 70 victims to that disease, we reduce the sum to 76 dying from all causes, or 1 in every 180 $\frac{2}{3}$. But, upon examination of the 76 remaining fatal cases, we find that—

"1 died of abscess of the brain.

2	„	apoplexy.
3	„	kidney disease.
4	„	heart disease.
3	„	bronchitis.
1	„	pleuritis.
3	„	pneumonia.
7	„	phthisis.
2	„	dysentery.
7	„	typhus.
2	„	scarlatina.
1	„	erysipelas.
1	„	rupture of vessel in mesentery.
1	„	perforating ulcer of stomach.
2	„	mental anxiety.

"In all 40 deaths from other than puerperal causes. If, then, we deduct these from the 76 fatal cases, there remain 36 deaths which originated in labour, or 1 in every 381 $\frac{1}{2}$." This, then, is our absolute mortality, reckoning those, even, who were admitted in a dying state. Moreover, there are included, amongst these deaths

which I have here set down as originating in labour, "three cases concerning which considerable doubt existed as to whether death did really result therefrom," in other words, such as the other authors describe as "anomalous." Now, comparing these accounts in the superficial manner in which the author of the paper against chloroform has compared them, Dr. Shekleton's mortality does certainly appear to a considerable disadvantage beside that of Dr. Collins', and the mortality during three years of Dr. C. Johnson's mastership, standing as they do thus, respectively, 1 in 84; 1 in 100; 1 in 102. But, making the proper deductions to arrive at the *absolute* child-bed mortality, we find the following results on comparison.

Deducting Dr. Collins' 12 anomalous and his 24 non-puerperal deaths, and his mortality is lessened to 1 in 128.

Deducting Dr. Hardy's and M'Clintock's 4 cases dying on admission and their 11 non-puerperal deaths, and their mortality is reduced to 1 in 132.

Deducting Dr. Johnston's and Sinclair's 17 cases dying on admission and their 40 non-puerperal deaths, and their mortality is reduced to 1 in 129.

Still further reducing Dr. Collins' deaths by those who fell victims to puerperal fever, and his mortality becomes so low as 1 in 237.

Submitting Dr. Hardy's and M'Clintock's fatal cases to a similar deduction, and their mortality is reduced to 1 in 250.

Applying the same process to Dr. Johnston's and Sinclair's deaths, and their mortality is reduced to 1 in 381.

So that the absolute child-bed mortality stands respectively for Dr. Collins, Drs. Hardy and M'Clintock, and Drs. Johnston and Sinclair, thus—1 in 237, 1 in 250, 1 in 381.

That being the state of the absolute mortality from the effects of labour during the periods over which the respective reports spread; were I to argue after the manner of the late Dr. Johns, I might come to the conclusion: that, since chloroform was extensively administered, during Dr. Shekleton's mastership, to the women then delivered in the Dublin Lying-in Hospital, and the mortality from the absolute effects of labour was so low as 1 in 381; and as this anesthetic was not given during the masterships of Drs. Collins and C. Johnson, when the absolute childbed mortality was 1 in 237 and 1 in 250 respectively; therefore, it was to the *frequent* administration of chloroform that this immunity from death originating from labour was due.

The great cause of the increase in the general mortality of the

hospital during Dr. Shekleton's mastership was evidently puerperal fever—the cases attacked by that disease bearing the ratio to those delivered of 1 to every 106; while during Dr. Collins' mastership the ratio was 1 to 189 of those delivered. I regret I cannot make a computation of the three years of Dr. C. Johnson's mastership, Drs. Hardy and M'Clintock not giving tables of that epidemic; I presume, however, that it was less than during Dr. Shekleton's mastership; certainly not greater. It therefore remains to see whether chloroform was the cause of this frequency of attacks of puerperal fever; or whether, *induced by its means*, it became *epidemicized* during Dr. Shekleton's mastership. I therefore submit the following table, drawn out, at my request, by my friend and colleague, Dr. George Johnston, who has kindly compiled for me several other tables, from which I shall presently deduce other facts tending to elucidate this subject. This table exhibits the number of deliveries and deaths; the number of cases which were put under the influence of chloroform vapour during labour, and those who, after such treatment, died; the number of peritonitis cases, and deaths from that disease; and, lastly, the cause of death in those cases who happened to die after having been delivered under the influence of chloroform, for each year over which our report runs:—

Year	Number of Deliveries	Deaths	Chloroform given		Peritonitis during		Cause of Death in those Cases who had Chloroform.											
			Cases	Died	Cases	Deaths	Pneumonia	Convulsions	Ulceration of Intestines	Scarlatina	Mania	Peritonitis	Rupture of Uterus	Rupture of Mesenteric Vein	Phlebitis	Ilac Abscess	Diarrhea	Sloughing
Nov & Dec. 1847	242	17	0	0	10	9	..	..	..	..	..	..	..	..	..	..	..	..
1848	1,823	33	38	1	43	23	1	..	..	..	..	..	..	..	..	..	..	..
1849	2,063	37	39	6	29	19	..	1	1	1	..	2	1	..	..	..	..	..
1850	1,982	17	47	4	15	2	..	2	..	..	..	1	..	1	..	..	..	..
1851	2,070	14	36	3	10	5	..	..	..	..	..	2	..	..	1	..	..	..
1852	1,963	11	53	6	3	2	..	2	..	..	..	2	1	..	..	1	..	..
1853	1,926	17	59	5	8	5	..	1	..	..	..	2	1	..	..	..	1	..
1854	1,679	19	41	5	11	10	..	..	..	..	1	3	..	..	..	..	..	1
Totals,	13,748	165	313	30	129	75	1	6	1	1	1	12	3	1	1	1	1	1

Now, it will be seen, by referring to the above table, that puerperal peritonitis was pretty well epidemicized *before chloroform was introduced into the hospital.* The epidemic was in that institution when Dr. Shekleton received it from his predecessor. This is evident, for, during the months of November and December, 1847, there were 242 deliveries and 17 deaths, or 1 in 17, and 10 cases of puerperal peritonitis, in other words, 1 out of every 24 of those then delivered were attacked; yet not a particle of chloroform was inhaled during that period.

	Mortality from all causes.			Peritonitis.		Chloroform.
1848	1 in 55	...		1 in 42	...	once in 48
1849	1 in 53	...		1 in 71	...	once in 52
1850	1 in 116	...		1 in 132	...	once in 42
1851	1 in 147	...		1 in 207	...	once in 57
1852	1 in 178	...		1 in 654	...	once in 37
1853	1 in 113	...		1 in 240	...	once in 32
1854	1 in 88	...		1 in 152	...	once in 40

The years in which chloroform was most frequently exhibited were 1850, '52, '53, and '54; and it will be seen that during this period of years 7,550 women were delivered, of whom 64 died, making a mortality of nearly 1 in 118. During this period chloroform was administered once in every 37 deliveries. While the years in which chloroform was less frequently administered were the two last months of 1847, '48, '49, and '51, during which period there were 6,198 women delivered, of whom 101 died—a mortality of 1 in 61—while chloroform was administered but once in nearly every 55 deliveries. Therefore, arguing after the manner of the late Dr. Johns, I might, from the above facts, come to the conclusion, that since the mortality, during the years in which chloroform was most frequently administered, was less than it was during the years in which it was not so frequently given, the lessened mortality was due to the more frequent use of chloroform.

A glance at that portion of the table which exhibits the causes of death of those who had taken chloroform, in conjunction with the chloroform column to the left, shows that of the 38 cases who took chloroform in 1848 but 1 died, and that of pneumonia. In 1849, 39 women took chloroform, of whom 6 died; 1 was a case of puerperal convulsions, 1 died of ulceration of the intestines, 1 of scarlatina, 2 of peritonitis, and 1 of rupture of the uterus. In

1850, 47 took chloroform, and of these 4 died; 2 were cases of puerperal convulsions, 1 of peritonitis, and 1 of rupture of a mesenteric vessel. In 1851, 36 took chloroform, of whom 3 died—2 of peritonitis and 1 of phlebitis. In 1852, 53 women inhaled chloroform, and 6 of these died; 2 were cases of puerperal convulsions, 2 died of peritonitis, 1 of rupture of the uterus, and 1 of iliac abscess. In 1853, 59 women took chloroform, of whom 5 died; 1 was a convulsion case, 2 died of peritonitis, 1 of ruptured uterus, and 1 of diarrhea. In 1854, 41 took chloroform, of whom 5 died—1 of mania, 3 of peritonitis, and 1 of sloughing.

It is most curious, the mode in which it is attempted to exhibit the baneful effects of chloroform as regards mortality. "But of these last," says the late Dr. Johns, alluding to our 13,748 deliveries, "*13,406 cases were not chloroformed, of which only 133 died, or 1 in 100! and of the remaining 342 who took the drug, 30 died, or 1 in 11!!!*" This statement appears at first sight truly appalling; but when we come to inquire as to the nature of these 342 cases who took chloroform, and find that with the exception of 18 or 20 (to whom the drug was given during perfectly natural labour, and concerning whom we shall presently speak), they come under the head of one or other of the following category, we shall not be quite so surprised at the large death-rate allotted to them. Thus, as many as 144 of the 342 cases were of the order tedious labour, and were subjects of the forceps. Laborious labour, terminating in the perforator and crotchet, claimed 86; convulsions, 12; and the remainder were comprised under tedious labour, terminating after unnatural delay, unaided by instrumental interference, together with every variety of preternatural labour, of course including transverse presentations, terminating in version, and the same completed by evisceration. With the exception of a few cases of natural labour in which the drug was administered to try its effects, chloroform was only given under the circumstances enumerated above. Is it fair, then, to take unnatural conditions which of themselves may be said to be almost the only causes of absolute child-bed mortality; and because chloroform was administered under such unnatural conditions, to argue that the death-rate in such a series was due to that drug.

I shall now submit in a tabulated form the histories of those cases who during their labours had inhaled chloroform, and subsequently died. This table exhibits the number of pregnancy, the number of hours in labour, the mode of delivery, and the cause of death:—

MORTALITY WHERE CHLOROFORM WAS USED DURING LABOUR

No.	No. of Pregnancy		Hours in Labour	Sex of Child		Result to Mother Date of Death	Mode of Delivery				Convulsions	Peritonitis	Phlebitis	Sloughing	Iliac Abscess	Placenta Previa	Accidental Hemorrh.	Rupture, Uterus	Rupture of Mesen- teric Vein.	Scarlatina	Pneumonia	Ulceration of Intestines	Anxiety
	1st	Subst		M	F		Forceps	Craniotomy	Turning	Natural													
13	1	—	40	l	—	12th day	F	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
19	1	—	8	—	D	3rd "	—	C	—	—	C	—	—	—	—	—	—	—	—	—	—	—	—
25	1	—	10	—	D	14th "	—	—	T	—	—	—	—	—	—	—	—	—	—	—	1	—	—
35	—	11	11	—	Dp	7th "	—	—	—	N	—	—	—	—	—	Pla P	—	—	—	—	—	—	—
22	1	—	32	—	D	6th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
35	1	—	40	D	—	3rd "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
40	—	3	96	—	Dp	2nd "	—	C	—	—	—	—	—	—	—	—	R	—	—	—	—	—	—
38	1	—	90	—	D	3rd "	F	—	—	—	—	—	—	—	—	—	—	Me v	—	—	—	—	—
25	1	—	21	l	—	3rd "	—	—	—	N	C	—	—	—	—	—	—	—	—	—	—	—	—
21	—	2	16	D	—	2nd "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
30	1	—	13	—	D	5 hours	F	—	—	—	C	—	—	—	—	—	—	—	—	—	—	—	—
28	1	—	38	D	—	3rd day	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
37	—	6	30	D	—	9th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
20	1	—	42	—	D	7th "	F	—	—	—	—	Phs	—	—	—	—	—	—	—	—	—	—	—
34	1	—	42	D	—	4th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
36	—	3	24	—	D	10th "	—	C	—	—	—	—	—	—	Ile Abs	—	—	—	—	—	—	—	—
36	—	3	9	—	ll	24 hours	2 F	—	—	—	C	—	—	—	—	—	—	—	—	—	—	—	—
19	1	—	7	—	l	2nd day	—	—	—	N	C	—	—	—	—	—	—	—	—	—	—	—	—
45	—	4	60	D	—	4th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
37	—	9	36	D	—	1 hour	—	—	T	—	—	—	—	—	—	—	Acl Hge	—	—	—	—	—	—
36	1	—	20	l	—	3rd day	F	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Anx	—
38	—	6	45	—	D	Same day.	F	—	—	—	—	—	—	—	—	—	—	R	—	—	—	—	—
30	1	—	9	—	Dp	2nd "	—	—	—	N	C	—	—	—	—	—	—	—	—	—	—	—	—
32	1	—	47	—	D	5th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
36	1	—	33	D	—	17th "	—	C	—	—	—	—	—	Sg	—	—	—	—	—	—	—	—	—
27	—	2	60	D	—	6th "	—	—	—	N	—	Ps	—	—	—	—	—	—	—	—	—	—	—
41	1	—	53	l	—	2nd "	F	—	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
22	1	—	27	D	—	4th "	—	C	—	—	—	Ps	—	—	—	—	—	—	—	—	—	—	—
19	1	—	26	—	l	5th "	F	—	—	—	—	—	—	—	—	—	—	—	Sca	—	—	—	—
40	—	9	28	—	D	12th "	—	C	—	—	—	—	—	Sg	—	—	—	—	—	—	—	—	—
—	19	11	1,014	14	17	—	—	9	14	2	5	6	11	1	2	1	1	1	2	1	1	1	1

From the above table it will be seen, that of the 30 fatal deaths of the 342 chloroform cases, 9 were subjects of the forceps; 14 of the perforator and crotchet; and but 5 were delivered unaided,

in one of whom the labour lasted for sixty hours, and who died of phlebitis; in another, the labour was complicated with placenta previa, and in the remaining three with convulsions. It will also be seen that the average duration of labour in these cases was 33.8 hours; the majority of them first labours (19), and 9 of these primipara ranged from 30 to 41 years of age.

With respect to the histories of the 9 fatal forceps cases, in addition to the information conveyed in the above tables, I find, that the first was admitted in acute bronchitis, which merged into pneumonia, the latter proving fatal. This case was, without doubt, one which ought not to have been subjected to chloroform inhalation. At present no one would attempt to administer chloroform, during labour, while the patient laboured under acute bronchitis; but this case occurred in 1848, when we were inexperienced in the use of the drug.

The second fatal forceps case could not, it may be granted, have been originated by chloroform.

The third was complicated, with convulsions.

The fourth, suffered from delay in the second stage of labour, from disproportion, and was seized, on the third day, with phlebitis.

The fifth was a twin labour, complicated with convulsions.

The sixth, suffered from delay chiefly in the second stage of labour, from disproportion. From the first approach of labour this woman had been in a state of great despondency and anxiety. She frequently exclaimed, during the progress of her labour, that she "was convinced her death was inevitable." On *post mortem* examination nothing could be found sufficient to account for her death, nor could any clue be obtained whereby to arrive at the source of her mental disquietude. Chloroform was given only just prior to operation.

The seventh was permitted to continue too long in the second stage, and rupture was the consequence.

The eighth took peritonitis after a prolonged second stage.

The ninth contracted scarlatina.

Remove now the case of death from pneumonia, and is there anything peculiar in the remaining eight cases, which point to chloroform as a cause of death? Exclusive of labour cases complicated with convulsions, we are possessed of the recorded facts of 144, in which the forceps was used. The operation was resorted to in these either on account of inertia of the uterus, some disproportion which could be overcome by means of the instrument, or malposition of

the fetal head. Every one of these cases was put under the full influence of chloroform vapour prior to operation, and a complete anæsthetic condition was maintained during the process of extraction, which occasionally occupied a considerable time, yet we can find but 6 fatal cases out of these 144. Surely, to say the least, this rate of mortality is not more disheartening than that of forceps cases prior to the introduction of the chloroform vapour. I may add, the average duration in hospital of these 144 forceps cases was about 9 days.

With respect to pure crotchet cases (*i.e.* irrespective of complex labours, such as convulsions, placenta previa, accidental hemorrhage, rupture of the uterus; and also exclusive of those connected with preternatural presentations) we have the records of 85, the average duration of labour in which, amounted to something over 34 hours. The cause of interference in these cases was—disproportion not suited to the forceps; inertia when the child was dead; prolapse of funis, in which the child was dead; deformity of the pelvis, either general or partial, and sometimes to an extreme degree; and, lastly, more or less occlusion of the vagina from cicatrices, the result of former inflammations and sloughings. Of these 85 cases but 14 died, *viz.*: 8 of peritonitis, three of sloughing, and 1 of iliac abscess. Now, all these cases were subject to the full influence of chloroform—many of them for a considerable period; yet I consider it difficult to arrive at the conclusion that chloroform originated a mortality of 1 in 6. The causes of deaths are perfectly natural under the circumstances, *viz.*, peritoneal and pelvic inflammation. Our mortality in crotchet cases would have been much less was it not that the forceps were frequently, and, for the most part, early used in tedious labours. Many cases that would have incurred no great risk had they been submitted to the perforator or crotchet, as they would have been some years previous, were thus removed from the sphere of these instruments; and, consequently, all our crotchet cases were, with a few exceptions (*i.e.*, in which it was resorted to to cut short labour in a few cases, when the child was known to be dead) of the most formidable kind. With respect to puerperal convulsions, always a complication of a most serious nature, one having an average mortality of 1 in $4\frac{1}{2}$, according to Churchill as collected from twenty authorities, we have recorded 50 cases and 13 deaths, or nearly 1 in 4; while chloroform was given to but 12, of whom 6 died. Those who inhaled chloroform were all seized with convulsions *before* it was administered; they were the worse description of cases, and I

cannot bring forward any evidence to prove that it was the cause of death in any, or that it accelerated death. I may state, that in our report, Dr. Johnston and I express ourselves as follows:—"As to the exhibition of chloroform" (*i.e.*, in convulsions) "nothing satisfactory could be said; it was, however, seldom given, and never unless depletion had been previously practised."

If it is desired to discover the true effect of chloroform in labour cases in the production of disease and death, the candid inquirer would seek for cases of the most uncomplicated description. In other words, he would endeavour to find the results of chloroform inhalation in labours purely natural, or nearly so. I submit, therefore, the following table of such cases. It contains, however, two cases of breech presentation:—

Chloroform in Natural Labour.

No.	Age	No of Pregnancy		Sex of Child	
		First	Subse-quent	Male	Female
1	27	—	2	1	—
2	35	—	9	1	—
3	26	—	4	—	1
4	24	1	—	—	1
5	27	—	3	1	—
6	30	—	4	1	—
7	18	1	—	1	—
8	22	1	—	—	1
9	22	1	—	1	—
10	28	1	—	—	1
11	30	—	2	—	1
12	19	1	—	—	1
13	36	—	8	—	1
14	24	1	—	1	—
15	40	—	11	—	1
16	22	—	2	—	D
17	21	1	—	1	—
—	—	8	9	8	9

In these cases there was no need of operative interference. Chloroform was given to try its effect, and they were all delivered under its influence, and maintained in a state of anesthesia more or less complete, for periods varying from half an hour to four hours and a-half. Yet here we have not a single fatality; and, with two exceptions, not one remained longer in hospital than the ninth day. Convalescence was not prolonged, save in the two cases alluded to, No. 10, who became affected with emphysema from over-straining, and No. 13, who became maniacal.

No. 13 became violently maniacal on the sixth day after delivery; all means failed in attempting to combat this state, till chloroform was *again* had recourse to, which had a marvellous effect in tranquilizing her; was persevered in as necessity required, and was finally the means of restoring her.

In cases Nos. 2, 9, and 16, there was a tendency to draining, but no decided hemorrhage.

It is not my intention to enter into a prolonged dissertation on these facts. My object is not to offer a full reply to the late Dr. John's paper, but merely to lay before the profession, the statistics of Dr. George Johnston and myself, with respect to their connexion with chloroform, in order that I may put the following questions:—

From a careful review of these statistics, can any one arrive at the same conclusions as the late author, viz., that chloroform, when inhaled during labour, "*very fruitfully* predisposes to hemorrhage, to puerperal inflammation, chest affection, and other diseases detrimental to health?" That it "lays the foundation of disease, to arise at a more distant period, and thus increases the mortality in child-bed and subsequent thereto?" That, in fine, puerperal fever becomes, through the means of chloroform, "epidemicised?" It is in support of these "positions" he referred "to the published Reports of the Dublin Lying-in Hospital;" and, it is from the comparison of our report with those of Drs. Collins, Hardy, and M'Clintock, that he arrived at his conclusions?

In the last series of cases I have given, viz., those to whom chloroform was given in natural labour there certainly appears a case of puerperal mania; but strange to say, chloroform was the agent which subsequently subdued the disease after all others had failed. I may here, also, observe, that it is stated in the paper alluded to, that I have recorded cases "in which puerperal convulsions occurred after its employment." Yes, doubtless; but I have recorded no case in

which convulsions did not occur in those cases *previous* to its employment. It was given with the hope of checking such seizures. It is said "Sinclair records one case of epilepsy," implying that such a condition was induced by chloroform. There is no case of epilepsy mentioned in our report, save that of an old epileptic who was seized with epileptic fits after her confinement, and who never, during her stay in hospital, inhaled a particle of chloroform.

Nevertheless, I am not an advocate for the indiscriminate administration of chloroform. There is no doubt that a certain risk attends its administration—a risk I do not consider we have a right to run in cases of labour *purely natural*. I was always under the impression that a tendency to hemorrhage was sometimes induced by its use, and, of course, a degree of uterine inéertia. The following case is a good illustration of these effects of chloroform which I take the liberty of laying before my readers:—

CASE I.—Towards the latter end of 1856, I was sent for to see A. B., who required my attendance at her third accouchement, expected to take place in the ensuing January. She was a healthy young woman, a brunette, and of sanguine temperament. I was informed that, at her two previous confinements she had taken chloroform, that it agreed with her amazingly, and that her attendant (a gentleman of great eminence) had told "her never to be confined without it," and "to take PLENTY of it without fear." I was likewise informed, that she had always severe "floodings" after the birth of the child; but that this was owing to "adhesion of the after-birth" requiring the introduction of the hand for its removal. I could not ascertain the period over which her labours ran. She did not complain of fixed pain or uneasiness over any portion of the uterine tumour. Her general health was most excellent. Four years had transpired since the birth of her last child, which, together with her first-born, was a healthy boy.

Towards the latter end of January I was called to A. B. in labour. I arrived very soon after its commencement, having been sent for immediately on the first accession of pain; my patient being most anxious to be lulled into forgetfulness by chloroform, as soon as possible. The first stage must have been very rapid, for, on my arrival, I found the head well down in the pelvis, and uterine action very energetic; in fact three or four good pains would have terminated the labour. I asked her, could she summon up sufficient courage to bear one or two more pains; and I promised, that if she

was not then delivered I should give her chloroform. This she would not listen to, and requested me, rather angrily, to administer it "at once," and to "give" her "plenty of it." I accordingly put a drachm in the hollow cone formed by a cambric handkerchief and gradually brought it to her mouth, just at the commencement of the next pain. She had inhaled it only a few seconds when the pain, instead of accumulating in force, completed itself with feeble action. I kept her under the partial influence of the drug, giving it to her at the commencement of each pain, for several pains; but not one was sufficiently strong to act on the head, and all voluntary efforts ceased. I was in hopes that by persevering the natural action of the uterus would return, as I had often observed to be the case; but I was disappointed. I then allowed her to get from under the influence of the drug, and tried to persuade her to bear a "pain" without chloroform; but she would not hear of it. I therefore put her into a state of complete anesthesia. The pains still continued at regular intervals, but, as before, were perfectly useless. In this state matters continued—I varying the depth of anesthesia for nearly six hours. At the termination of this time, since she was as far as ever from delivery, I determined to use the forceps; and called to my assistance my friend, Dr. Dwyer, for whose opinion, as an obstetric physician, I entertain the highest respect. Dr. Dwyer satisfied himself as to the paralyzing effect of the chloroform; and after watching the case some time with me, considered, that as matters seemed likely to remain in *statu quo* for an indefinite period, it would be well to cut short the labour at once. I consequently delivered her of a healthy boy, with the forceps. The uterus was sluggish, and in a few minutes, though constantly commanded by the hand, very brisk hemorrhage set in. The placenta was pressed off; there were no adhesions. To arrest the hemorrhage we were obliged to administer ergot, to use cold applications, and to give different stimulants. At last we procured a permanent contraction, and secured the uterus with pads and binder. Our constant attention was required in the room for a considerable period after delivery. This lady made a most excellent recovery, never having exhibited a bad symptom during her convalescence, which was but of ordinary duration.

Upon the consideration of this case no one, I think, can arrive at any other conclusion than that the effects of the vapour of chloroform was to paralyze the uterus. For my part I am perfectly positive that had this lady endured three or four more pains without its use,

she would have been delivered in less than half-an-hour after my arrival. That being granted, the hemorrhage was consequent upon want of action also. So that, here was a case of purely natural labour, whose duration would have, most certainly, been but about an hour and a-half, by means of chloroform inhalation prolonged to a period of several, and the duration of which promised to have been indefinite—a case of labour changed from natural to instrumental; and rendered also one of danger from the occurrence of hemorrhage during the placental stage. I could not, as I before mentioned, find out how long this patient had been in her previous labours, or whether she was delivered naturally or otherwise; but this I have no doubt of, viz., that “the plenty of chloroform” which was on those occasions administered to her, and “agreed with her so charmingly,” was the cause of her floodings, by giving rise to inertia. Moreover I consider that the probability was she never had an adherent placenta; though she might have had a retained one requiring removal. For the sake of obliterating, in this case, a few minutes’ pain, a natural process, which almost invariably terminates happily, was rendered one of considerable risk.

The following is so instructive a case that I need no apology for detailing it:—In August, 1859, I was required to attend C. D., in her first confinement; she resided in the suburbs. This lady was most anxious to have chloroform, having been urged to it by some of her female acquaintances, so that I had to promise that it should be in the room during her labour; and I further stated that should I consider it necessary I would administer it. This was a premature labour—feet presented—and, as far as I could learn, of about the seventh month. She was taken ill at 5 o’clock, a.m., and when I arrived, at 7, a.m., the os uteri was sufficiently open to determine the presentation. She was a fine healthy young woman, aged twenty-five, and of sanguine temperament. I managed to coax her to forego chloroform for some time—till the feet were external and breech in the os uteri; but her fortitude now forsook her. She prayed so hard for the vapour, and I was so urged by her sister (a woman who had had many children), that I proceeded to administer it at the next pain. As in the former case, into the hollow cone, formed by a cambric handkerchief, I poured about a drachm of chloroform, and brought it very gradually towards her face. I had the fingers of my disengaged hand on the pulse. Uterine action was arrested at once, and she had scarcely inhaled it half a minute when I felt the pulse suddenly failing.

Immediately removing the handkerchief I was horrified to find her lips pale, and that respiration had, to all appearance, ceased. I at once fanned off the chloroformic atmosphere from her face, drew out her tongue, had her aspersed freely with water, and employed all the rough-and-ready measures at hand in order to restore respiration. To my inexpressible relief respiration returned, the pulse revived, and in a few minutes more she was out of danger. After some further delay, and upon the recurrence of pain, I completed the delivery. The child died a few minutes after birth. It was a monstrosity, deficient in the mesial line both anteriorly and posteriorly. The placenta was naturally expelled, and convalescence uninterrupted.

I do not think any one can doubt but that in this case life was very nearly lost; probably had my finger not been on the pulse the woman would be now in her grave. The danger here could not be accounted for by fault on the side of the administrator, who was thoroughly versed in its exhibition; neither could it be laid at the door of the impurity of the drug, for it was fresh, and from one of the most eminent houses in the city; nor was it because of the health of the patient, who was perfectly sound in every respect. The danger originated from some cause beyond our ken; it was wholly unexpected. Some idiosyncrasy against the drug must exist with some; and we know not when such a subject may come under our treatment. It was needless to give this patient chloroform, and a trivial case was nigh made a fatal one.

The observations of Dr. Meigs, of Philadelphia, relative to the administration of anesthesia in labour, are most sound, and, though enunciated some ten or twelve years ago, during, it may be said, the infancy of anesthesia, have, in my opinion, been strengthened by experience. He observes:—^a“1st. As to the necessity in ordinary cases of parturition. The average duration of labour is four hours; and I have shown (page 252) that the number of labour pains is about fifty, and that they last, each, about thirty seconds; so that the parturient woman really suffers from labour pains about fifteen or sixteen minutes, and no more; and these sixteen minutes are distributed among the four hours of labour of mean duration.

“It has never been pretended that the motive for the anesthetic practice has any connexion with the other pains of woman in labour, but only with the suffering from *contraction* or *labour pains*; for,

^a *Obstetrics, the Science and the Art.* Philadelphia, 1849. P. 316.

though we may well suppose that women suffer from painful sensations independent of those arising from the actually contracting womb, yet we find them, in general, *easy, complacent*, and but too happy when the pain is off. Hence the ether is exhibited for the pain, and for no other motive.

"I contend that it is to an exaggerated notion of the nature of labour pains we owe the introduction of ether into our art; for if the mean of labour pain be only fifteen minutes in all, there can be no necessity in *the average of cases for its exhibition*. I should find the objection to it less, and the inducement greater, were the fifteen minutes of pain to be always fifteen consecutive minutes. When they are distributed through two hundred and forty minutes, or four hours, I look upon the exhibition as unnecessary and uncalled for.

"2nd. The representations that have been made by the friends of anaesthesia, of the harrowing distress endured by women in child-birth, do not consist with the general state of facts in the case; and it is quite as true that the lying-in room is, for the most of the scene, a scene of cheerfulness and gaiety, instead of the shrieks and anguish of despair.

"Few women lose their health or their lives in labour, and the dread of future sufferings is insufficient to prevent the increase of the family, &c." Then, after referring to the effect of anaesthetics upon the encephalon, and that there exists but a slight step from anaesthesia to death, the influence, perhaps, extending to the medulla oblongata, he concludes:—"Now I have to suggest to the student the propriety of asking what would be his feelings provided in any such case this silver cord should be loosened; and I ask him whether, if the anaesthesia should proceed at first or secondarily, to attack and overthrow the power of the medulla oblongata, his patient would not instantly be deprived of life." . . . "I do not well understand how those persons can recover their complacency who, by an unnecessary and inappropriate resort to so dangerous a process, *have seen the victims of this extraordinary power struck lifeless before their eyes!*"

Now although amongst the facts here recorded not one fatal accident from chloroform can be found; though it cannot be said that mortality was increased in any way by its means; or that disease, on account of its exhibition, was rendered more rife, or convalescence prolonged; though evidence sufficient cannot be obtained, from the perusal of these observations, to cause its utter condemnation and expulsion from obstetric practice; still, in my opinion, sufficient *can*

be gleaned to enable us to come to the conclusion, that the indiscriminate exhibition of chloroform vapour in labour cases should be abandoned, and that it should never be given in labour purely natural, or nearly so. It is true that out of all the cases Dr. Johnston and I have recorded, derived from our hospital experience, but on two or three occasions did symptoms sufficiently alarming occur to cause us to desist in its administration; and it is equally true that from out of my own private practice I can adduce but two cases strongly contra-indicating it; still these two, taken alone, are quite sufficient, in my opinion, to sever chloroform from its much too intimate connexion with natural labour.

In the first case I have detailed I would, without hesitation, have staked my professional reputation that in three or four "pains" after my arrival, the patient would have completed her delivery. That is, physical pain by no means unendurable (this was a third labour), and which, if continuous, would have occupied no more than two minutes of time. Yet, to save herself from even this (in consequence of previous treatment), a woman insists upon being rendered insensible, by chloroform, and thereby incurs the risk of the effects of hemorrhage, and renders what would have been a most easy labour, one without power, and necessitating the forceps. Even if the second case was the only one I had brought forward, it would in itself be sufficient to deter one from the indiscriminate administration of chloroform in labour. Here is a woman, in premature labour, at a period when a perfect command can be had over the labour, so that it can be terminated at once if necessary (the feet having been without the vulva and nates through the os uteri), who urgently begs for chloroform prior to its completion—a labour which might be considered all but natural, as far as delivery was concerned—chloroform is reluctantly given to her, and, but that the finger of the administrator is on the pulse, she is inevitably lost. I cannot help coinciding with the old argument, so far as chloroform inhalation is connected with natural labour, viz., that if 999 women took it during natural labour, with impunity, and but one was killed, that alone, should be sufficient to deter us from administering it in such cases. It is true no fatal case from chloroform in obstetric medicine has as yet been recorded; here, however, is detailed one very nearly so; and I can scarcely believe but that, if the histories of labour cases was searched, by candid and unbiassed investigators, we should find many other such examples. It may be asked, then, what are the cases in which

I recommend chloroform; or, in other words, in which I should not hesitate to administer it.

To enter upon this subject, at present, would extend an article already of too considerable length; so that, I shall reserve my further observations for a future number of this Journal.

My chief object in the present paper is to exhibit the facts published by Dr. George Johnston and myself, taken in connexion with chloroform inhalation during labour, in their true light; and to obviate such erroneous conclusion as might be arrived at, from a hasty perusal of the paper published in May, 1863, by the late Dr. Johns.

ART. VIII.—*Case of Fibro-Cystic Tumour of the Uterus.* By T. SPENCER WELLS, F.R.C.S., Surgeon to Her Majesty's Household, to the Samaritan Hospital, &c.

ON the 20th of June, 1864, I arrived in Dublin, having been requested by Dr. Stokes to come prepared to operate in a case which he and Dr. Beatty considered did not admit of delay. I saw the patient at once with Dr. Stokes. She was a single lady, forty-five years of age, extremely emaciated, but in excellent spirits. Dr. Stokes had detected two apparently solid tumours in the abdomen ten years before. One appeared to be central, and a little above the umbilicus. The other to the right side, under the anterior superior spinous process of the ilium. They were then, each, about the size of a goose egg. Increase had been slow at first; and no alteration in dress had been called for till a year ago. During the past two months increase had been very rapid. The abdomen was enormously distended, measuring fifty-six inches in girth at the level of the umbilicus, nineteen inches from the ensiform cartilage to the umbilicus, sixteen from umbilicus to symphysis pubis, twenty-three from the right anterior superior spine of the ilium to the umbilicus, and nineteen inches from the same process on the left side to the umbilicus. The greater prominence on the right side was very visible; the skin covering the umbilicus was distended by fluid simulating an umbilical hernia. Above the umbilicus fluctuation was very evident; but the fluid was evidently free in the peritoneal cavity, and covered a solid or semi-solid tumour that could be felt on displacing the fluid by deep pressure. Some of

the superficial abdominal veins were dilated, but were not varicose; the fluctuation below the umbilicus was very indistinct, and the tumour appeared to be adherent. Examination *per vaginam* showed the uterus was high, but central; the os vaginal; the cervix absorbed or atrophied, and behind it a small portion of the tumour could be felt through the vaginal wall. The uterine sound passed to three and a-half inches. Menstruation had passed off quite naturally early in June; but there had been no appearance for the previous months. Up to that time she had been quite regular. There was no history either of excess or deficiency. The left leg was slightly œdematous, and she had occasionally felt it weak and painful. She had never been tapped.

The diagnosis which I made and wrote down was:—"A quantity of fluid free in the peritoneal cavity above the umbilicus—ascitic or ovarian? Below the umbilicus a large attached multilocular cyst." In consultation with Drs. Beatty, Gordon, and Stokes, it was agreed that I should tap above the umbilicus, and if the tumour appeared to be firmly adherent do no more; but if the tumour was not attached, to remove it. Accordingly, Mr. Macnamara having administered chloroform, and with the kind and able assistance of Drs. Beatty and Gordon, I tapped, with a very long trocar, above the umbilicus, and removed about thirty pints of clear rather viscid fluid. When all the fluid had escaped, the canula (which is fourteen inches long) was passed in all directions between the surface of the tumour and the abdominal wall, proving that there were no adhesions within reach. Fluctuation was also detected in different parts of the tumour. After removing the canula, and closing the small opening, I made an incision below the umbilicus about six inches long, and exposed what appeared to be two ovarian cysts separated by a deep fissure. I tapped that on the left side, and about ten pints of bloody serum escaped; two or three pints more of similar red fluid escaped after puncturing again within the cyst first opened, by pushing on the trocar without removing the canula. The tumour was then withdrawn, and found to have two attachments—one above to the tumour on the right side, and one below to the uterus. The former attachment was broken through, and two bleeding vessels on the torn surface of the right tumour were secured by silk ligatures. The left broad ligament was then transfixed, tied in two halves with strong silk, and the tumour was cut away. It then became a question what should be done with the tumour on the right side; and looking to its great size, solidity, evident close

connexion with the transverse colon, and with the omentum which contained some enormously distended veins, it was decided, with the full concurrence of Drs. Beatty and Gordon and Mr. Macnamara, that no attempt to remove this tumour should be made, especially as the patient was becoming very feeble. The wound was accordingly closed, and the patient placed in bed. She was extremely feeble, and brandy was administered freely; but she never rallied, nor recovered consciousness, continued to sink, and died about three hours after she had begun to take chloroform.

The following description of the tumour which I removed is the report of Dr. Ritchie, who examined it with great care twenty-four hours after removal:—

“ The tumour is an irregularly flattened oval, weighing about twenty pounds, and composed almost entirely of solid matter. Its greatest length is 18 inches; breadth, 12 inches; thickness, 7·8 inches. For purposes of description it may be divided into an anterior and posterior surface, a right and left side, and an upper and lower extremity; but it must be remembered that its position before removal was oblique, the posterior surface being turned considerably to the left side of the body.

“ The posterior surface is comparatively smooth and flat, of a dull grey colour, marked here and there with crimson traces of inflammation. It is entirely invested with peritoneum, and through that layer shines a fibrous tissue which, in the centre of the tumour, forms a dense net-work, but towards the superior extremity is arranged in open meshes, some of them one inch in diameter. Inferiorly the surface loses the glistening appearance which its upper portion presents, and is of that dull grey colour so characteristic of the presence of adipose tissue.

“ The general shape of the posterior surface is that of the body of a guitar; and from the narrow constricted part hangs, on each side, a semi-detached tumour, that on the right side being about the size of a small orange; that on the left four or five times as large, and more irregular in shape. Immediately above the irregular tumour is to be found the pavillion of the Fallopian tube (left), which runs downwards a distance of $6\frac{1}{2}$ inches, and is lost on the surface of the tumour—at least it was impossible to follow it farther. Just before breaking up into its terminal fimbriæ the Fallopian tube dilates into a transparent cyst the size of a small bean; this cyst does not communicate with nor obstruct the canal of the tube.

“ The anterior surface, which looks also somewhat to the right,

is much more irregular than the posterior, and is covered with several layers of false membrane, which are deeply injected, and in some places quite black. Inferiorly, and a little to the left, is the spot at which the tumour was amputated—an irregular surface, consisting of two circular facets, about $3\frac{1}{2}$ inches in diameter, joined by a bridge 2 inches long by $\frac{3}{4}$ broad. Below, and to the outer side of the cut surface, is found the left ovarian ligament, about 3 inches long, and terminating, without any well-marked line of separation, in an ovary, which, although flattened and drawn out, appears normal, and contains a corpus luteum. The superior extremity of the tumour is convex, and consists of a large cyst whose contents have been evacuated. The inferior extremity is rounded off, and presents nothing worthy of remark.

“Structure of the Tumour.”—On making a longitudinal section the tumour was found to consist of fibrous tissue, arranged in different fashions and in different states of perfection, and split up by little cavities of various sizes, containing serum more or less transparent. In some places the fibrous tissue was arranged in concentric lamellæ, and it was then possible to isolate, by the fingers alone, little masses varying in size from that of a nut to that of an apple, and resembling much the round fibroids of the uterus. These little masses, however, were never removed entirely whole; their connexion with the surrounding tissue was much more intimate than it is usually in an uterine fibroid. In other places the fibres were interwoven without definite arrangement; towards the inferior extremity they seemed to be in process of fatty degeneration, and in several places little calcareous masses, without any well-defined structure, were discovered. Just at the inferior extremity the surface was rendered irregular by some little hard nodules, which, on being cut into, presented the appearance of tubercle. The solid tissue was everywhere permeated by large blood-vessels, and in several places blood-cysts, the size of a barleycorn to that of a pea, were demonstrated. The largest cyst was at the superior extremity; it was about the size of an adult head, and its internal surface presented traces of having primarily been divided into several compartments. The thinnest part of the cyst wall was $\frac{1}{4}$ inch; its lining was smooth and glistening, having much the appearance of a serous layer. At one point there projected into the cavity a yellow nodule the size of a bean, and spherical in shape. With a little trouble this nodule was taken away entire, and found to consist of a smooth investing fibrous capsule, and contents which were partly granular partly oil

globules. From the large cyst a little passage, through which might be passed a common lead pencil, led down into the little tumour which was described as attached to the right side of the tumour. The corresponding one on the opposite side was also hollowed, but had no communication with the large cyst. The cysts contained in the solid substance of the tumour were of various sizes, from a mere trace to several inches in length; their lining membrane could not be separated from the surrounding tissue; some of them communicated together by means of slender tubules."

The body was examined after death by Dr. Gordon, and the following is a description of the tumour which we did not attempt to remove:—It consisted partly of a cyst and partly of a fibro-cystic tumour. The cyst was spherical, about a foot in diameter, empty (its contents having escaped through a smooth-margined opening, an inch in length), and it adhered to the anterior abdominal wall; with this exception, the whole surface of the cyst was free and unattached, except inferiorly. The walls were extremely thin superiorly, so that at first sight they appeared to consist exclusively of peritoneum, marked, however, by the course of large vessels. Inferiorly the cyst wall was capable of being split up into three layers, the outer serous, the middle one apparently muscular, and the internal one epitheliated. A little to the right, and inferiorly, the tumour was attached by a pedicle, $3\frac{1}{2}$ inches long, 2 inches broad, and $\frac{3}{4}$ -inch thick.

This pedicle was covered with a serous layer, and consisted of fibrous tissue, hollowed out here and there into little cysts, similar to those described as having been seen in the tumour removed by operation. The extremity of the pedicle had been connected with the anterior portion of the solid tumour, but was detached by the weight of the latter, when being taken out of the body. The cyst, at the operation, was seen collapsed, and lay immediately above the transverse colon, in front of which the pedicle descended. The inferior border of the cyst was further attached to the transverse colon by strong adhesions, in which were found several large blood-vessels and some lymphatic glands; two of the latter being enlarged and infiltrated with tubercle.

A part of the omentum was attached to the colon, and in it the veins were enormously distended and much convoluted. They were full of air, and resembled rather the small intestines of a fowl or of a rabbit than the blood-vessels of a human being.

On examining the uterus and the enormous fibro-cystic tumour

which was springing from its fundus, the vaginal portion of the uterus was found to be altogether atrophied—the vagina terminating in a virginal os uteri; and the sensation conveyed to the finger was that of a very light movable uterus. On looking for the body of womb, its place was found to be occupied by a long flexible tube, crackling under pressure, like thick parchment. From the upper, somewhat dilated, extremity of this tube, sprang the right Fallopian tube and the right ovarian ligament. This was in normal relation to the right ovary, which also appeared healthy. The vagina and the elongated uterus were now slit open, and the length of the entire cavity of the womb was found to be 7 inches, that of the cervix alone $3\frac{3}{4}$ inches. The greatest width of the uterine cavity was close to the fundus, but did not exceed $\frac{3}{4}$ of an inch. The left Fallopian tube had been cut through half an inch from its uterine extremity.

The walls of the uterus, like the Fallopian tube, were of normal thickness. From the fundus sprang a fibrous column, 5 inches long, 3 inches deep, and $1\frac{1}{2}$ inch broad, encircled at its upper extremity by a ligature. The left side of this fibrous column presented a roughly cut surface, 5 inches long and 3 inches broad or deep, being the point which the tumour first described had been cut through at the operation. The tumour which was left was an enormous mass, 18 inches in length, 16 inches in breadth, and near its centre fully 7 inches thick. The posterior surface was of a greenish colour, from commencing decomposition, and its smooth external glistening tunic here and there raised by rounded projections, of all sizes, from the head of a pin to that of a child. Some of these projections evidently contained fluids, others were hard, and their fibrous nature sufficiently apparent without the aid of dissection.

Here and there were traces of adhesions. On the anterior surface the walls were intensely congested with occasional rounded projections. The lower two-thirds of the tumour were, however, separated by a deep sulcus from its upper third, so that the two bodies appeared distinctly separate. The upper tumour was 11 inches broad by 6 inches long, and 6 inches in depth; its general shape strongly suggestive of an enlarged liver. In structure the tumour was precisely similar to the one removed by operation, and described by Dr. Ritchie.

Remarks.—One of the soundest objections raised to the admission of ovariectomy among those surgical operations which have been

generally looked upon as "legitimate"—(or, in other words, which it is the duty of the surgeon to perform if he is called upon to try and save the life of a patient when threatened by a dangerous disease)—is the difficulty of diagnosis. And the supporters of the operation, while they assert that many of the mistakes which have brought discredit on surgery ought not to be repeated at the present day—and can only be repeated by the ignorant or the careless—admit that, in some rare cases, it must be almost impossible to arrive at a perfectly correct diagnosis before the commencement of the operation. Still advancing knowledge makes such exceptions rarer and rarer; and it seems probable that even such cases as that described, will soon be eliminated from the list of those in which an exploratory incision must be made, or the operation of ovariectomy commenced, before the surgeon can be positively sure as to the precise nature of the growth with which he has to deal.

In the fourteenth volume of the *Transactions of the Pathological Society of London*, page 204, may be found a short account of a fibro-cystic tumour of the uterus which I removed from a single lady, aged 53, on the 30th of April, 1863. One large cyst had held 26 pints of fluid and 4 pounds of fibrine; and a solid mass, which weighed more than 16 pounds, resembled very closely the mass just described by Dr. Ritchie. The patient sank, from shock, four hours after operation, although the tumour was completely removed; and there was so little difference in the pedicle from that often seen in ovariectomy, that it was not until after *post mortem* examination that the true nature of the case was discovered. Given, a large semi-solid tumour, fluctuating in some parts, containing cysts holding upwards of 20 pints of fluid, moving beneath the abdominal wall, the uterus being movable, and not enlarged so far as measurement by the sound can detect, no sound or arterial impulse to be heard which is not often heard in ovarian tumours, and no history of hemorrhage leading to a suspicion of uterine disease—and it will be admitted that these characters of the two fibro-cystic tumours of the uterus which I removed, so closely resemble those of semi-solid ovarian tumours, that diagnosis must be very uncertain. Even after an exploratory incision, I know of nothing but a rather darker—less pearly blue—aspect of the tumour which would put the surgeon on his guard. In any doubtful case it would be well to tap the largest cyst and examine the fluid. In both my cases this was peculiar—not the viscid mucoid fluid of multilocular ovarian cysts, but a thin serum, with 5, 10, or 15 per cent. of blood intimately

mixed with it, and not separating until after standing for some hours. In this way I have satisfied myself, in at least four cases, that tumours, which others considered to be ovarian, were really fibro-cystic uterine growths. If the operation has been commenced, and the dark aspect of the tumour is observed, it would certainly be advisable not to do more than tap one or more of the largest cysts before examining attentively the connexions between the uterus and the tumour. If these should prove to be very intimate, it will be the unpleasant duty of the surgeon to desist from any attempt to do more, and to close the wound as soon as possible. At least, the two cases in which I made the attempt to do more, have convinced me that I tried to do more than can be done with a fair and reasonable hope of saving life.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Three Hundred Consultations in Midwifery. By ROBERT LEE, M.D., F.R.S. London: Churchill and Sons, New Burlington-street. 1864. Pp. 217.

OUR task is over. We have carefully read this volume; and we entertain considerable doubt if amongst its records can be found an instance of labour more tedious or irksome than that which we have undergone in completing its perusal.

This is a small book, comprising a number of meagre notes of cases in obstetric consulting practice, thrown together without classification, and unembellished by any practical observations. "After the manner adopted by Paul Portal, Mauriceau, Gifford, and Smellie," to use our author's own words, have these three hundred cases been collected, that is, in chronological order. Indeed, one would fancy Dr. Lee endeavoured, as far as he could with decency, to keep himself within the systems of practice adopted by these worthies. That there are few novelties to be found in this collection it is needless to say, but it abounds with the peculiarities of Robert Lee. Though his remarks upon these cases are extremely few, they are sufficient to acquaint any reader (even a stranger to Dr. Lee's writings, and ignorant of his peculiar views) with the tenor of the author's mind, namely, that he is averse to all deviation from the old and beaten track, except it be upon his own recommendation; that he is unsparing in his sarcasms against everyone whom he deems an innovator; and that he exhibits an undignified, as well as an ungenerous intolerance against those who entertain different opinions from himself.

This little volume, though very defective in many respects, is by no means without its use. It is a quaint record of good and bad practice, both on the author's own part and upon that of his consultants. One lays it down, moreover, with a sigh of relief as well as of sadness

after having read such numerous disclosures of *total* ignorance of obstetric medicine, as exhibited in the copied letters and detailed actions of persons, who have undertaken the care and assistance of woman in her hour of trial. The narration of cases of malpraxis are useful as warnings to others, while the exposition of pretenders may render them less daring, and therefore less injurious to the public. It must not be supposed that our author gives the names of these latter, but he details such cases, in a manner so peculiar, as shall leave no doubt in the minds of each distinguished member of the profession as to his connexion with the case.

We shall detail a few instances such as we have alluded to:— At ten o'clock one Friday (whether morning or evening is not stated) the author was called to see a case of labour, which had commenced on the previous Wednesday afternoon. The medical (?) attendant informed him “that the *urinary bladder had descended before the head*; that the head was firmly impacted in the brim; and that the brim was distorted. Dr. Lee, upon examination, found “the *membranes protruding through the external parts; the urinary bladder in its natural situation*; the patient not exhausted; pains strong; *head descending into the pelvis, and the pelvis of the usual size.*” Our author gave this person the following impressive lesson:—He “begged Mr. — to push his finger through the membranes and let the liquor amnii escape; and to introduce the catheter into the bladder” (Case 96). Here we have an example of absolute ignorance of the most rudimentary department of practical midwifery. It is more than probable that this person had never attended a labour case before, nor had even been present at an institution to see one attended by another. This “attendant” does not exhibit even a “little knowledge,” and probably so much the better was it for his patient; for, wanting the self-confidence arising from the impudence inseparable from such a condition of obstetric endowment, he is not above obtaining the advice of Dr. Lee, who gives him a most admirable and practical clinical lecture. It is true the poor patient's pain might have been curtailed, but fortunately no danger of any consequence could have arisen while the membranes remained so long entire with plenty of liquor amnii. The next case we shall quote offers a different type as regards the professional acquirements of obstetric physicians. This attendant informs Dr. Lee that labour had commenced in the afternoon; that there had been a great quantity of liquor amnii, and when he examined he felt a hand, but that afterwards the breech presented

Two hours before Dr. Lee's arrival the trunk and extremities had been expelled, but "the head was remarkably large," and "could not be extracted." "I found," says Dr. Lee, "the trunk and extremities hanging externally, and the child cold and dead. I took off my coat, turned up the sleeves of my shirt, made an examination, and found the head in the pelvis, in the most favourable position for extracting," which extraction he readily accomplished (Case 235). Now in this case the ignorance exemplified is not so great as that in the one above. The attendant here may or may not have mistaken a foot for a hand; at any rate, he was aware that it was subsequently a breech presentation, and had, in short, a better knowledge of his subject; yet how infinitely more disastrous did this case prove than the former. In this, notwithstanding the knowledge, the life of a child was lost; in the other, as we have seen, nothing unpleasant occurred. In one case self-sufficiency proves disastrous; in the other complete inefficiency proves a safeguard. It may be here observed that Dr. Lee always informs us when he takes off his coat, and turns up his shirt sleeves; but omits to mention whether he folds the former garment and places it neatly on a chair, or throws it carelessly on the bed. As he *does* tell us so much concerning his garments, we see no reason why he should not complete that department of the operation.

Matters improve as we proceed—*i. e.* an increase of obstetrical wisdom going *pari passu* with increased boldness on the part of the attendant and increased probability of serious results to the mother. The following letter is sent to Dr. Lee:—"I shall feel obliged if you will come to me at the above address, and bring your forceps, &c." (The *et cetera* means crotchet and perforator.) "I have been here twenty-eight hours, and *have failed to deliver the head by means of my OWN forceps.*" This lady is forty-two years of age, and in her first labour. "I suppose," says Mr. — to our author, "it is a case of twins, as the pains do not help us at all. *The head is quite low down.* I have tried to move it with the forceps, but I *cannot make the forceps lock.*" On Dr. Lee's arrival he found this patient with a good countenance, not a bad pulse, not much exhausted, but with inefficient uterine action. But the tongue was furred, and the vagina and external parts greatly swollen and intensely red; and last, not least, the head of the child *had not passed the brim of the pelvis.* This accoucheur had advanced to a forceps; he had one of his own, and he had clapped it on three times in the case just alluded to. He spoke learnedly also to

his consultant, and suggested the existence of twins, because the pains were inefficient. Though the head was low down "quite," he advised the long forceps. Of course, as he had tried three times with his own—a very short one we hope—and failed, it would have been superfluous for Lee to have attempted with his short one. But what was the result of this case? Not only had the head not passed the brim, but it was likewise "much compressed; great swelling of the scalp, the head beyond the reach of the forceps." "The first question I said," continues Dr. Lee, "for our consideration is, can the patient be left longer in labour in safety? If she is not delivered soon will some serious mischief ensue? We were agreed on these points, that labour could not be allowed to continue longer. I thought the head too high up and too large to allow of the forceps without great danger to the mother, and no chance of saving the child. I expressed a decided opinion that the only means of rescuing the patient from the dangerous state was to deliver with the perforator and crotchet. Mr. —, who had adopted the new opinion, that craniotomy ought to be banished altogether from midwifery, would not agree to this, but insisted that the long forceps should be tried. I suggested that Dr. — should be called into consultation. Dr. — said this is not a forceps case. The only thing that can be done is to open and extract the head. The child must be sacrificed. We do not know that it is alive. The probability is that it is dead. Meconium is passing. I opened the head, and great and long-continued force was required to extract it with the crotchet. Great force was required to draw the shoulders through the pelvis; and though Mr. — supported the perineum carefully, it was, most unfortunately, lacerated to some extent, and ever since has been of great inconvenience from the injury done to the parts, a part of the sphincter ani having been torn. The patient was in an almost incoherent state during the whole time I was engaged in delivering the child, and afterwards she was seized with puerperal mania, from which she has slowly recovered" (Case 252). This woman had been left in hours of unnecessary and unavailing suffering through sheer ignorance. There was narrowing, or at least disproportion of some kind—head or pelvis being at fault. The fetal cranium was wedged in the brim, unacted upon by the pains; and a forceps was used several times by an individual who was incapable of judging as to the real nature of the case.

We could quote upwards of forty such instances of defective education, exemplified in this small volume, did our space permit,

but shall notice but two more only. One in which the attendant becomes much alarmed, "because he could not feel the uterus, and was conscious of the existence of some tumour, which turned out to be the placenta coming through the os uteri, but slightly caught in its passage by the cervix, and capable of being removed without difficulty." The other it is necessary to give *in extenso*, and in our author's own words:—

"Case 260.—At 9, p.m., on Saturday, the 22nd of September, 1860, Mr. — called upon me, and requested me to accompany him to the house of a patient who was in the utmost danger, in consequence of a large portion of the placenta having been left within the uterus eight days after delivery. He had not attended the patient during the labour. Being accidentally in London, and having had the care of the patient some years before in the country, and being informed by her husband of the alarming state in which she was, he had gone to see her, and, in consequence, had requested that I should be consulted. Being entreated likewise by the husband, who accompanied Mr. — to my house, to go, and, if possible, save the life of his wife, I could not refuse to do so. I found the patient with a rapid pulse, 140; the abdomen tympanitic, but not tender on pressure. Tongue furred; no vomiting. The whole atmosphere of the apartment tainted with the fetor of the discharge. I made an examination, and *felt the upper part of the vagina filled with a large mass of placenta, a portion of which had not cleared the os uteri.* With the fore and middle fingers of the right hand this was removed with some difficulty. It was in a condition not to be described—horribly putrid. The windows of the room were thrown open, and the corrupted mass disposed of as quickly as possible. I requested that the vagina should be washed out thoroughly with warm water; that this should be done at short intervals; and that some aperient medicine should immediately be administered. The patient recovered favourably. Before leaving the house I could not avoid expressing to the husband my disapprobation of the treatment which had been pursued by the practitioner to whom he had entrusted the care of his wife. My opinion being demanded, I had no choice but to discharge my duty on this occasion, as I have done on all occasions when consulted. The following letter, containing the details of the case, was addressed to me, September 27th, 1860, by a gentleman who had seen the patient on the same day that I was called to remove the placenta, but whose name had not been mentioned to me:—

“ I take an early opportunity of setting you right upon one or two points in regard to the case of retained placenta, to which you were called last Saturday evening. I must tell you I was called to the patient at 12 o'clock, midnight, on Saturday last, the day on which you saw her, and she was delivered into my care by the gentleman who was engaged to attend her, and who was compelled to leave for Brighton—(the gentleman who actually attended her I did not see). I found, at my visit, that a full examination *had been made a couple of hours before*, and that the *vagina was positively free from clots, &c.*;^a there was no hemorrhage; the os was open more than usual. Under these circumstances I did not feel justified in examining then; but I ordered several doses of ergot to be given, with a view to expel any remaining mass, and I *advised to defer the examination, if hemorrhage occurred, till my evening visit.* In the mean time, a Mr. — arrived from —, and I saw him, and he coincided in my treatment. I left him at 8, to inject a stream of tepid water into the uterus; but, at 8.30, he took upon himself to disregard my interest in the case, and to send for you; *and you arrived and forestalled me in removing the placenta's remnant, which my ergot had expelled into the vagina.* You were not told that any ergot had been given. I mention these facts in order that you may rectify your notes of the case now, and not leave to — in the event of the case appearing in print at any future time. I must say that Mr. — has been guilty of a most glaring breach of professional etiquette; and it was unhandsome also on your part that you should have disregarded me, when you were perfectly aware that I had sole charge of the case, and you were wholly unjustified in making the remarks you did. I hope, however, that I may be mistaken, and that it arose from a misconception on your part.—I am, etc.”

“ On the 28th September,” continues Dr. Lee, “ I addressed the following note to the writer of this letter:—‘ Will you inform me who it was who actually attended Mrs. —, and when the confinement took place; and, likewise, who it was who had made a full examination a couple of hours before you saw the patient?’ The following reply was received:—‘ It was the eighth day after confinement on which you saw the patient. As to the antecedents of the case, and treatment, I cannot speak; and, indeed, as the case was mine only for a time by accident, I should not feel justified in

^a The italics are our own.

furnishing any particulars beyond those I have. P.S. My object in writing to you is, chiefly, to defend my own treatment.' These letters were sent to the gentleman in the country, by whom I had been called to see the patient. *It must be obvious to all who peruse this correspondence, that it is difficult to obtain full and accurate histories of cases in midwifery, etc.* All who reflect must be convinced that principles, as they are called, or doctrines which do not rest upon a large number of faithfully recorded cases, can only lead to pernicious errors in practice." The following is the letter received by Dr. Lee from the gentleman who had called him to see the case:—"I felt very sorry, on my return home, on Friday evening, that I had not time to answer your kind note, as the post was just closing. It is evident that Dr. — is much disappointed he cannot appropriate any credit in the treatment of Mrs. —. I congratulate myself, and the friends of Mrs. — are deeply gratified, that I called you to see her. It is my firm conviction that had she been left another day without proper management, the case would have terminated fatally. I believe I told you what occurred upon my arrival; however, I will briefly recapitulate what I said to you. I found the mother and husband of my patient much distressed, and foreboding the worst results, and well they might do so; for Mrs. — was talking incoherently, the pulse 160, the abdomen tympanitic, and there was a total absence of mammary secretions. After a short time, Dr. — came, and informed me what he had done and prescribed; that an examination had been made, and the vagina and os uteri found perfectly free of coagula and debris of placenta; that he was giving a mixture, with dilute sulph. and liq. secale (of which about two or three doses had been taken) to *counteract any hemorrhagic tendency.* *Not a word was said by him that any portion of the placenta was yet remaining in the uterus, nor did he say that he should make an examination in the evening.* I suggested an injection of some disinfecting liquid into the vagina, and also into the uterus, as the discharge was still of an offensive character; and, as a medicine, carb. ammon. and camph. mixture, with lemon-juice—the former in excess; *but, before doing anything, I should call in some leading physician, as I considered the case pregnant with danger.* Dr. — made no objection. Before we reached Mrs. —'s house, I hinted to you that we ought to acquaint Dr. —; but it was thought not convenient to detain you until he was sent for, *especially as he had told me he was making alterations in his house, and might not be at home.* Not a word was said by me of any remark made by

yourself, only that you had removed a large mass of putrid and stinking placenta. I explained to him how it happened we could not see him, and I thought he seemed satisfied. I am at a loss to imagine how he could charge me with being guilty of a most glaring 'BREECH' (*sic*) of professional etiquette. I suppose he may be much surprised that a country practitioner could not be perfectly satisfied with his opinion; for he told me that he had 300 such cases as that of Mrs. ——. He evidently took it for puerperal fever, as he said *he was about to publish on that disease*, and that he had just read a paper upon that subject before the Obstetrical Society; and that Dr. —, the previous attendant, had declined to see Mrs. —, fearing that he might communicate the complaint to a lady to whom he was hourly expecting to be called. I shall not notice his remarks," &c., &c. (Case 260.)

Need we apologize for giving this case *in extenso*, exactly as it is given to us by our author? In connexion with the case immediately preceding, it is most instructive; for, when contrasted, they again afford the extremes of the two leading types of ignorance met with in obstetric practice. The former exhibits complete ignorance in the practitioner; who, though he has the temerity to attend obstetric cases, yet is perfectly ready to permit his inexperience to be discovered. The latter is an example of one possessed of an empty smattering of his subject, together with boundless impudence and assumption—added to which, an amount of cunning calculated to gloss over error. The first is by no means so dangerous a person as the second. The one, conscience-stricken, at once cries out, "God be merciful to me a sinner;" he calls for aid on one who can remove him from his predicament, and thus prevents the possibility of evil results; while the other acknowledges no error—admits of no superior—but brazens it out with unblushing effrontery; and, even though he must stand self-convicted, acts his part to the end. This person, of course, never requires assistance, and so one need scarcely feel surprised that evil results should have thickly followed on his trail. Thus, though we by no means potently believe all he says, when he informs "the young man from the country" what a swell he is; how he contemplates authorship, and how he gave some hints to the Obstetrical Society of London; yet we must admit that his crowning assertion, as to the 300 cases of puerperal fever he had seen in his practice, may have had some of the element of truth in it, in this way—viz., that the amount of puerperal complications in his practice bore an enormous ratio to the number of his deliveries. We

trust this gentleman, if he has published, has committed as few "breccches" of the rules of orthography as possible. Certainly, after the perusal of this history, we must concur with our author that sometimes, at least, "it is difficult to obtain full and accurate histories of cases in midwifery."

We feel convinced that instances of malpraxis and exhibitions of professional incompetency have been of more frequent occurrence in obstetric medicine than in any other branch of our profession. Yet one would have supposed that, apart from the interests of humanity, students would for their own profit as well as for their peace of mind—while yet there was time—have endeavoured to procure a sound practical knowledge of this subject; such, however, has not been the case heretofore. Perhaps to those, some time since, engaged in medical education, may be attached a portion of the blame for this melancholy condition of affairs. During our own studentship we remember it was much the fashion of the schools to decry midwifery. Ignorant of obstetric medicine themselves, from the irksomeness attending the acquirement of a competent knowledge therein, some endeavoured to promulgate the idea that it was an unimportant branch (if a branch at all) of medicine. We have often heard the greatest ridicule thrown upon the subject, and that in language by no means refined; while its practitioners were, even then, viewed with some degree of contempt. Such having been the case we need scarcely be surprised if obstetric medicine was then by no means a favourite study with the student. Attendance on lectures and cases, of course, were necessary to qualify for examination; but this was done *pro formâ*, and slurred over as quickly as possible. The old system has now most happily been removed to some extent, and the great, the paramount importance of midwifery is beginning to be appreciated. It has been found that the public require competency as well as attendance in this branch of medicine, from the *great majority* of practitioners; and so the term "midwife" as applied to such in contempt, together with the sneers and sarcasms once so profusely and loudly flung at them are now but sparsely discharged and faintly expressed. In our school of medicine the study of midwifery has, for a considerable period, occupied its due share of attention; and hence it is, that, with us, there are not observed such frequent and lamentable specimens of malpraxis as stud so thickly the pages of this small volume.

Concerning the practice of our author we regret to state, that in

many respects it appears by no means an improvement upon that of the majority of his consultees. We are at issue with him upon almost every point, and in none so much so as in his treatment of tedious and difficult labours. We consider him to be decidedly too fond of his perforator and crotchet. Indeed, sometimes of his crotchet *without* his perforator. He is peculiarly hostile to the forceps, if one may judge from the perusal of this volume at large; and seems to revel in delight when he meets with a case of lacerated perineum which he can, by any means in his power, connect with that instrument. Doubtless the forceps may be much abused. And from the records of this volume, exhibiting, as they do, so many examples of incompetency to practice obstetric medicine, one must arrive at the conclusion that it *was* frequently used unnecessarily as well as clumsily in those instances which came under the author's observation. But granting such to have been the case, there is, on that account, no reason to ignore, to such an extent, the use of so valuable an aid. Surely in the hands of so experienced a practitioner as himself, Dr. Lee could not have apprehended such intense injury and danger from its use; even though he *did* lacerate a perineum, by dragging with the crotchet, a lessened head through the vulva (*vide* case 190).

Case 92 is an excellent example of the timidity exhibited by our author with regard to the use of this instrument. A young woman is, from 7, p.m., to 12, progressing in the second stage of labour; but from 12 to 8, a.m., matters remain stationary. The author is called in, and recommends waiting "*a few hours*" longer, in the hope that the child would be naturally expelled. He does not tell us if the case was one of simple inertia, and whether any means were adopted, or recommended to stimulate the uterus (which Dr. Lee must know may be done without his friend (?) the ergot); but he merely *waits* four hours longer. The result is, *exhaustion* takes place, and then the forceps are applied, and not *till* then. We are not informed if this woman's convalescence was delayed—our author is often very curt when it suits—but, surely there would have been less *chance* of prolonged convalescence if *exhaustion* had not been permitted to supervene. We presume that this was a case of simple want of efficient uterine action; for otherwise, sufficient power would have been exercised upon the head to cause considerable pressure on the soft parts (against which it had been imposed for so many hours), and to have given rise to some subsequent inflammatory action in those parts. Had such occurred, it would

most certainly have been mentioned with grim satisfaction; and the forceps would have incurred the blame, which should have been attached to the author's want of decision.

In illustration still further of this timidity in the use of the forceps we shall draw attention to case 87; and here we shall have a more extensive view of our author's bad practice than in the former case. We shall, however, give the history in his own words:—

"On the 9th of November, 1851, I was attending Lady —— in her first labour; the presentation was natural, *and there was every prospect that in a very short period the process would be happily completed.* Suddenly a great extravasation of blood took place into one of the labiæ, and it became swollen and livid, and *actually burst* on the inner surface, and a large effusion of blood took place. Mr. —— was requested to see the patient in consultation, and we agreed that immediate delivery was necessary, and the forceps could not be applied, although *the head was within the pelvis*; turning was out of the question. *I opened and extracted the head very speedily*; recovery was in all respects satisfactory."^a

The first conclusion one arrives at after reading the above is, that our author was unacquainted with the nature of a labial thrombus; for he informs us, that from the great extravasation of blood, the labiæ "*actually*" ruptured "on the inner surface;" as if such an occurrence was to him a matter of surprise. But after the extension of the labiæ—which must have been great, as the extravasation was "great"—had been relieved by the rupture, and as there had been previously every reason to suppose that the process of labour "would be happily completed," and as the head was "*in the pelvis*," what could possibly have contra-indicated the use of the forceps? Was it through fear of lacerating those already distended parts? Was it because an ear could not be felt? How did our author arrive at the conclusion that "the forceps could not be applied?" Did he try? Was it possible that labour might have been even naturally completed, notwithstanding the ruptured thrombus? We have seen such instances, although the hemorrhage had been profuse and the thrombus very large. Why did he give no chance whatever to the child? We have no hesitation in stigmatizing this as an example of grossly bad practice. After this piece of teaching to the students of St. George's Hospital, our author had better

^a The italics in this case are our own.

restrain his sneers against the “school where” he has “every reason to believe unsound doctrines are taught, and where the teacher has derived his knowledge chiefly, if not entirely, from German and French books” (p. 171).

We shall allude to but one more case (127), as illustrating the practice of Dr. Lee in cases demanding instrumental interference. We could, however, adduce many in which are disseminated as pernicious doctrines as ever emanated from any school, whether German or French, or even that of St. George's Hospital. This we shall also copy *in extenso*:—

“On the 3rd of February, 1854, Dr. — requested me to see a patient in Stanhope-street, Regent's Park, who had been upwards of *thirty hours* in labour with her first child. *The pains had almost entirely ceased, and there was great exhaustion.* The head, *much swollen*, was *firmly impacted* in the brim of the pelvis. An ear could not be felt. We waited *eight hours* to see if the pains would return, but they ceased completely. And it being obvious that the head would never be expelled by the natural efforts, we resolved to deliver by craniotomy. In removing the placenta, which was retained within the uterus beyond the usual period, I ascertained that the base of the sacrum projected forward unusually. The hemorrhage and faintness which followed ceased, and the patient recovered most favourably. After the labour had been happily completed, Dr. — expressed his surprise how any practitioner in midwifery could venture to apply the forceps to the head firmly impacted in the brim of the pelvis, *when there was no room for the blades to be introduced.* I stated, as the result of my experience, that fatal contusion of the soft parts was often the result of this injudicious proceeding, sloughing and vesico-vaginal fistula.”

Now let us for an instant place ourselves in the situation of one of the pupils of St. George's Hospital, and endeavour to enlighten ourselves, according to the doctrines to be gleaned from this case.

It follows, then, that after the endurance of thirty hours' labour, when the head is closely impacted in the brim, we must wait eight hours longer “to see” if the pains will return, notwithstanding our patient suffers from “great exhaustion.” In a case such as the one just narrated, it does not seem that a very great amount of acumen was necessary to arrive at the most correct line of proceeding. Here is perfect impaction at the brim; there is not room enough even for the thin blade of a forceps to be insinuated between the fetal head and the mother's pelvis; the latter lies in a state of great exhaustion

after having endured thirty hours' torture. Why wait eight hours longer "to see" if pains will return, which, even did they, might not suffice to move the presentation one line further. Or if, after completing, by some marvel, the delivery naturally, would, most certainly, have produced a dead child—which might have been dead already for what we know—no mention having been made that auscultation was practised during the progress of the labour. In this latter respect we here take the opportunity of stating that our author's histories are very defective. He should, in each case of arduous labour, have stated the results of auscultation, or whether this aid to our action in such cases had been omitted. He very rarely does so. In the above case we presume it was not had recourse to, for had it been practised with care during these thirty-eight hours; and had the heart's sounds been carefully noted, there might have been *less necessity for waiting eight hours for the return of pain*. We also take this opportunity of informing Dr. Lee that in the use of the stethoscope we have a very certain means, as a general rule, "by which the life or death of the child" can "be determined with certainty in cases of difficult labour;" and that he may derive from it that "most important assistance in the treatment of cases of protracted labour." We mention this, as, from his observations at page 131, we suppose him to be ignorant of the practice of auscultation in obstetrics.

We disagree completely with Dr. Lee as to his views, both as regards the use of the forceps and that of the perforator in tedious and difficult labours; and we perfectly concur in the assertion of our contemporary, the *Lancet*, "that if, in 171 cases of difficult labour, we must be called upon to perform craniotomy in upwards of 90, the practice of midwifery should ever afterwards be avoided by us."—(*Lancet*, Nov. 5, 1864.)

We now pass to the treatment of placenta previa, as presenting some novelty, upon which we have one or two observations to offer.

The method adopted by our author in the treatment of these cases is as follows—so far, at least, as we can glean from his scattered cases. Whether it be full time or not, once the placenta can be distinguished to occupy a situation over the os and cervix uteri and hemorrhage occurs, delivery must be completed in the following manner:—By introducing the hand into the vagina, getting two fingers (one at a time) through the os uteri, pressing aside the misplaced placenta, searching with the two fingers for the foot, and with them drawing the extremity of the fetus through the os, and

completely delivering—in other words, forced delivery. This practice he frequently adopts also, in cases of partial placenta previa. The *tampon* he barely mentions, save as a remedy in another form of hemorrhage, and to which we shall presently draw attention.

We have collected from our author's records thirty-one cases of this complication; eight partial placenta presentations, nineteen complete, and four in which the particulars or the amount of the attachment over the cervix are not stated. Of these we shall give a brief summary:—Of the eight partial placenta presentations four were treated by forced version; two by version, the os being favourably disposed for that operation; one by rupturing membranes; and one by rupturing membranes and then craniotomy. Of the four treated by forced version three mothers recovered—what became of the other is not stated—and one child was dead-born; the others are unaccounted for. Of the two treated by ordinary version one mother recovered, one is not accounted for; and what became of the two children is not mentioned. The case treated as accidental hemorrhage recovered, but the child was dead-born; and the mother recovered who was treated by rupturing the membranes and delivering by perforator and crotchet.

The nineteen complete placenta presentations are thus disposed of. Forced version was practised in eleven cases, three mothers died; two children were born alive, and one breathed for a little; and what became of the four other children has not been stated.

In five cases the os was favourably disposed for version, and one mother died, three recovered, and one is unaccounted for. There is nothing said of the children. In one case the placenta was pierced, the waters let off, and labour was finished naturally; the mother recovered and the child died.

In one case the placenta was pierced by the hand and version performed; the mother recovered, and the child was dead-born.

Of the four cases in which the amount of attachment of the placenta over the cervix is not mentioned—two were delivered by forced version; both mothers recovered, one child was lost, and we have no account of the other; one mother was delivered while dying; both lost; and one was delivered, the os being favourable for that operation, and was saved, as was her child.

The results of our author's practice in placenta previa, taking his cases indiscriminately, we find to be as follows:—

Of the 31 mothers, concerning whose cases he was called on to consult, 22 recovered, 1 we can only suppose to have recovered, 5

died, and we hear nothing of what became of 3. The 31 children resulting from these deliveries are thus disposed of:—4 were born alive, 1 breathed for a little, 11 were dead born (12 died), and of 15 we have no account.

Omitting those mothers who have not been accounted for, we have 28 and 5 deaths, or 1 in $5\frac{3}{4}$. Of the children 16 only are accounted for, and 4 mentioned as saved, or 1 in 4.

These statistics of all the varieties of this complication, are very imperfect, and therefore we cannot arrive at any very definite or satisfactory conclusion. We find that the mortality to mothers in cases of complete placenta previa was 1 in 4, whose labours were completed by forced version. This practice was adopted in the partial variety but four times, and none of the mothers were lost.

It is to be regretted we cannot form an opinion of this mode of proceeding; but we are constrained to believe that the omissions as to the result of cases would not have been so numerous, especially in respect of the children, had it been very successful. We are led to form this idea, from such bitter flashes of exultation as the following:—After detailing an operation of forced version in placental presentation, in which the child was fortunately saved, the author concludes thus:—"What would the result have been had the placenta been torn away, and the child left to take care of itself" (!)

Dr. Lee, as we have before mentioned, ignores plugging in cases of placenta previa. In this country it has been found a most successful mode of proceeding, especially in cases coming under treatment at the commencement of the hemorrhage. Our author uses the plug, however, under other circumstances, which to us appear most reprehensible; but we shall illustrate his practice on this point by a case or two, in order that our readers may judge for themselves.

Case 74.—"On the 24th April, 1851, Mr. — requested me to see a patient in the eighth month of pregnancy, who had suddenly been attacked with flooding about 8, a.m. A great quantity of blood escaped in a short time, and she became exceedingly faint; she had not been exposed to any accident of any kind. Great alarm was excited by the hemorrhage, for she was fully aware of the danger. Mr. — was immediately summoned. There were no labour pains, and the os uteri was so slightly open that only one finger could be introduced, and the part was extremely rigid and undilatable. The patient was desired to remove to bed, *and vinegar*

and water were applied over the lower part of the abdomen, and cool air admitted. At 1 o'clock in the morning the flooding and faintness returned, and I saw the patient half-an-hour after. Two fingers could, with difficulty, be passed through the os uteri; and with these a portion of the placenta was felt at the anterior part of the cervix. Immediate delivery was required, but the hand could not be introduced to turn the child. With the two fingers introduced through the os uteri, the head of the child was pushed aside, one of the knees was seized, and then the foot, but it was impossible, from the contracted and rigid state of the os uteri, to draw the foot into the vagina without risk of injury. All the efforts I could make were unavailing; and it was resolved, therefore, to desist for a time, till the os uteri had become more yielding. The hemorrhage having ceased, Mr. — remained with the patient—prepared, the instant it became possible, to seize the foot and extract the child. At 7, a.m., *the hemorrhage being renewed, with great faintness*, and the os uteri not only more open, but more dilatable, the foot and leg were drawn through by Mr. —, then the nates, and the whole child extracted without much force. The placenta came away at the same time. A slight oozing of blood having continued, I saw the patient at 11; recommended stimulants to be given freely; ice in a bladder to be applied to the external parts, *and if the discharge continued, a large sponge to be introduced into the vagina, and that it should be pressed up firmly against the os uteri.* A binder and pad had been applied. The child was dead. The patient recovered favourably."

In this case of placenta previa, where the first gush of hemorrhage occurred, the os uteri being only just commencing to dilate, the only treatment adopted was—*vinegar and cold water to the abdomen!* Consequently, in about twenty-five hours or so, flooding returns, *with faintness*; but the os uteri will not admit of forcible dilation, and an attempt to turn is abandoned, the patient being again left to herself, in order that the os uteri may become more yielding. And so assuredly it does, for in about seven hours more the *flooding returns*, "with great faintness," and then there is no great difficulty presented against version, which is completed; and so far this woman had a most miraculous escape from death. However, some oozing continued after the placenta had come away, and Dr. Lee recommended the *vagina to be plugged*, if ice and stimulants fail in arresting it. The cold happily succeeded, the oozing ceased, and this poor creature most fortunately escaped from *a second chance of*

the grave, for she had not been plugged after the completion of her labour. The question arises: could this patient have been saved from the second and third gush of hemorrhage? We have no doubt in answering in the affirmative. Had the sponge, properly introduced, been well compressed against the os uteri after the bleeding which occurred at 8 a.m., there would have been no return, and two attacks of "*great faintness*," from loss of blood, would have been avoided; and the os uteri, being also stimulated, uterine action would have continued free from bleeding, and rendered unnecessary an abortive effort at version. True, this woman recovered; that is no reason the practice pursued was good—she would have recovered quicker and better had she not lost half the blood in her body, which would have been preserved had the case been treated properly. With regard to the utility of the recommendation of the tampon, after the completion of the third stage of labour, in order to arrest hemorrhage in that stage, there is no illustration offered in the case above; but Case 225 affords most useful information on that head. In this case our author—after the temporizing system has been adopted for some time at the expense of the vital stream—performs version during a gush of hemorrhage. Immediately after delivery another gush occurs, which does not yield to cold or pressure. (The introduction of the hand was not tried.) And so *a large sponge was introduced into the vagina*, and masses of ice applied externally—but all efforts fail; hemorrhage, of course, continued *into the uterus*, and the woman dies! Here, then, is an appropriate place for us to draw the curtain over this volume. Why enter further into the detail of its contents? Enough has been already said of it, and were we to continue our observations we should, doubtless, weary our readers, and most certainly disgust ourselves. Would that the veil we now draw over it could hide it from the world for ever. In our school it will have no effect. In that of England we have the consolation of knowing many sound and enlightened manuals and monographs are in existence, from the pens of gentlemen of more liberal minds than our author, which will counteract to a great extent the pernicious doctrines contained in this, Dr. Lee's last publication. In conclusion, we beg to remind Dr. Lee that he glories too much in finding fault with others, and we would beg to call to his recollection the old proverb:—

"Crimina qui cernunt aliorum, non sua cernunt,
Hi sapiunt aliis desipiuntque sibi."

On Diseases of the Throat and Windpipe, as Reflected by the Laryngoscope. A complete Manual upon their Diagnosis and Treatment. Embellished with 116 Engravings. By G. D. GIBB, M.D., M.A., &c. Second Edition. London: Churchill. 1864. Post 8vo. pp. 481.

THE book which bears this inviting title, is a very nice-looking volume of 481 pages, with a very carefully compiled index, and a glossary. It is the second edition of a treatise on diseases of the throat, published before the introduction of the laryngoscope. Dr. Gibb has long been before the medical public as an author on this and kindred subjects.

The book before us is a combination of the first edition and a pamphlet recently published, which we reviewed in a previous number of this Journal. Such a book should be a class book on the subject. The author must have extensive experience; he has evidently expended much labour upon the book, and appears to have spared no expense in illustrating the cases with woodcuts, some of which are extremely well done, the others, to say the least, are rather extraordinary. We are told in the Preface that "all the engravings, with a few exceptions, have been carefully executed by Hart, from drawings made by the author." The illustrations of the instruments are all good, but the illustrations of the cases are of the most primitive kind.

He tells us that "he has spared no effort to make his book a useful and practical work—one that could be consulted on emergencies;" and, also, that nothing has been omitted having any relation with diseases of the throat and larynx, and he states that "these diseases are a class of maladies which may be now claimed as coming especially within the province of the physician, *who can devote that patient attention and care to their investigation and treatment which surgery does not permit.*" We shall presently give our readers some specimens of the satisfactory manner in which Dr. Gibb has fulfilled his promise of providing the profession with a hand-book.

Dr. Gibb claims great things for the laryngoscope; he says, "the satisfactory results obtained in many of the cases narrated could not have been accomplished unaided by the laryngoscope. In the hands of those accustomed to its manipulation its use effects what has

been heretofore looked upon as marvellous, for it renders 'the dumb to speak and the deaf to hear.'"

The classification of diseases in the table of contents is curious; but we must not object, for the author has prepared us in his Preface:—"Objections might be taken to some of these, but the object held in view was simplicity and general convenience." We cannot exactly see either the convenience or simplicity of calling whooping-cough an exanthematous affection; or classing the sore throat from tobacco, which he tells us in the text is caused by the smoke coming in contact with the mucous membrane, under "diseases arising from systemic changes."

We will now give our readers a short *resumé* of the chapters *seriatim*.

The first section of the first chapter is devoted to the consideration of "dysphonia clericorum." And we are told that "medical men rank next in frequency" to the clergy, and "a moderate proportion exists amongst members of the bar." We pass from the description of the symptoms—for Dr. Gibb tells us nothing new—to the treatment. This he divides into "measures of a local character, and into those of a general or constitutional nature." Under the first head he places insufflation of powders or liquids in fine vapour or spray, or directly applied by means of brushes or sponge.

His constitutional treatment he describes thus:—

"My favourite remedy is the ioduretted iodide of potassium, or a weak Lugol's solution, combined with some carminative and tonic, of which the *hydrastin*, the active principle of the *hydrastes canadensis*, is one of the best." He also mentions iodide and bromide of ammonium. "In advanced cases lozenges of the *eucalyptus rostrata*, the red gum of Western Australia, are of extreme value."

"In giving these remedies attention should be paid to the secretions by the use of mercurials in alterative doses, or the use of aloes, or regulated doses of the podophyllin, the active principle of the *podophyllum peltatum*, combined with *leptandrine* and *hyoscinamus*, or *iridin*, with mucilage, in pill, or some other laxatives.

"The inhalation of the spray of mineral waters has been found useful, also, by Drs. Sales-Girons and Trousseau; but caution is necessary in employing it, for pneumonia has resulted when the spray was impregnated with tannin." Then follow twenty-seven cases selected out of "some two hundred examples in" his "note books;" seemingly chosen more for the respectability of the patient than the interest of the case. One is a well-known Canadian

merchant, another is Rev. T. S. N., Rector of ———, at Lincoln, and so on. In not one of these cases is there any account of the course of treatment; only in two is it even mentioned, namely, Case 7 and 13. In case 7 he says, "I advised, besides other measures, the inhalation of tannin, with the pulverizing fluid apparatus of Weiss, which was procured by him, with what results I am not aware." Did the patient die of pneumonia?

The other sections treat of chronic diseases of the windpipe, diseases of the cartilages, consumption, and bronchitis, and weakness of voice. There is nothing very new in these sections, with the exception of the plates, and the author's mode of expressing himself. Fig. 7 is described as "the epiglottis, below which is seen the tumour of the right false vocal cord, shaped like a volcano with a crater." The author's description of his plate is most accurate, for it exactly resembles the large volcano represented in charts of the moon. As a specimen of the author's mode of expressing himself we quote the following passage, with which he concludes one of his cases:—"No *post mortem* examination was made; thus ended the unfortunate case, which might have been attended with much more comfort to the patient had his constitution been better, and the laryngeal consumption less extensive than it was."

Chapter II.—"Diseases of the Vocal Cords, of a Functional and Organic Nature, giving rise to Hoarseness and Modifications of the Voice, with Loss of it." In this chapter we have again to find fault with Dr. Gibb for not giving particulars of treatment. In one case he says, he "applied showers of strychnine to the cords." Imagine a physician, or one of Dr. Gibb's surgeons, "who cannot devote that patient attention and care" to "investigation and treatment," hastening to Dr. Gibb's book for information as to how he should treat a case of functional aphonia, having heard that "no effort had been spared to make it a useful and practical work—one that could be consulted on emergencies." He turns to page 109 and finds that Dr. Gibb, in a case of functional aphonia:—On the 16th applied showers of strychnine. On the 18th a solution of nitrate of silver and mercury, and a counter-irritant to the pomum. On 19th a solution of nitrate of silver in showers; repeated 20th and 21st. What an excellent guide to the poor physician or ignorant surgeon whose art "does not permit of care and attention in investigating disease." Nor will he be much more assisted by the reading of the following case in the same chapter:—

"CASE —Aphonia for six months, wholly functional, cured by

metallic showers " . . . "Speaks in a low, almost inaudible, whisper. The larynx was not diseased, but the vocal chords were seen motionless. For a few days she had metallic showers to the larynx, of silver, copper, and zinc, which strengthened the whisper," &c.

The next subject is organic aphonia. Under this head are placed inflammation of the chords and larynx, growths and tumours, and disease of the brain, hoarseness and its causes; and the chapter ends with "Pathological Modifications of the Voice." In this section we find the necessity for the glossary. Strange and fearful words meet our eye. Contendophonia—we turn to the glossary and find—"A straining of the voice in declamation and oratory; a term proposed by the author." Acantophonia, and several others, for which we must refer our readers to the author's glossary.

We have passed over the section on growths and tumours, having, on a former occasion, given a very full notice of this part of the subject, with woodcuts.

The rest of the book is written very much in the same style; introducing every circumstance that might possibly induce the lay reader to consult Dr. Gibb, and giving very little to the practitioner who may take up Dr. Gibb's book as a guide to treatment of his own cases.

We cannot conclude without remarking one novelty, entitled:—"Saccharine Throat, a New and Distinct Malady." This is the climax of mysticism in Dr. Gibb's book, and is quite beyond our experience; but, as Dr. Gibb gives us very little information about it, our readers must be content with the mere mention of what we are at a loss to describe.

While we condemn the style of the book, and the unsatisfactory way in which all the subjects are dealt with in it, we give Dr. Gibb our unqualified approval for the ardent zeal with which he has prosecuted his studies in laryngoscopy. We hope that in another edition of his work he may glean out the valuable information he has diluted with so much unnecessary verbiage, and give to the profession a more detailed account of the treatment with which he has been so successful. The book ends with a description of the laryngoscope, with which, in our opinion, it ought to have commenced.

The Influence of Weather upon Disease and Mortality, by R. E. SCORESBY-JACKSON, M.D., F.R.S.E., &c.

THIS work is reprinted from Part II. of Vol. XXIII. of the *Transactions of the Royal Society of Edinburgh*, before which body it was read by Dr. Scoresby-Jackson, who is lecturer on *Materia Medica* and *Therapeutics* at Surgeons' Hall, and author of *Medical Climatology*, the *Life of Dr. Scoresby*, &c. Beside that literary *sine qua non*, the "Introduction," the work consists of three parts (40 quarto pages); three tables, A, B, and C; and five illustrative plates.

Having referred to the name of Hippocrates, and other medical fathers, as commonly associated with the subject, the author thus writes:—

"The influence of weather upon disease and mortality has been acknowledged as a potent external force in every age, from that eminently speculative and credulous period when physicians professed to receive their diagnostic as well as their therapeutic inspirations from the stars down to our own day. And yet there is, perhaps, no question in the whole cycle of medical sciences which has made slower progress than the one we have now to consider. People believe that the weather affects them. They speak of its influence, sometimes commendingly, more frequently with censure, on the most trivial occasions; but beyond a few common-place ideas, the result of careless observation, or perhaps acquired only traditionally, they seldom seek a closer acquaintance with the subject. Our language teems with medico-meteorological apophthegms, but they are notoriously vague. The words which are most commonly employed to signify the state of the weather at any given time possess a value relative only to the sensations of the individual uttering them. The general and convertible terms—bitter, raw, cold, severe, bleak, inclement, or fine and bracing—convey no definite idea of the condition of the weather; nay, it is quite possible that we may hear these several expressions used by different persons with reference to the weather of one and the same place and point of time."

Having glanced at the paucity of medical inquiry into this subject, and referred to names of home and foreign writers on it, the author advocates the utility of such investigations, because whether we do or do not possess a knowledge of the etiological and therapeutic influence of meteorological phenomena, we invariably

act as if we were most intimate with the subject. Pursuing the same strain, he remarks that in estimating the value of a foreign climate, we are not to depend so much upon a comparison of the meteorological data of the several places, as upon the relations subsisting between the meteorological data and the prevalent diseases and death rate of one and the same locality.

Scotland is selected as the subject of investigation; the meteorological data are taken from the collected returns from the stations of the Meteorological Society of Scotland, as reduced by the Astronomer Royal. The amount of rain in inches, the number of rainy days, and the degree of saturation, are given as deduced by Mr. Glaisher; while the mortality tables are constructed from the returns made by the Registrar-General. The red dots on the map of Scotland, facing the title page, indicate the situations of the meteorological stations; the red lines, the positions of eight large towns—Glasgow, Edinburgh, Aberdeen, Dundee, Perth, Greenock, Paisley, and Leith. The diagrams, coloured and clearly drawn, are of considerable value, and serve to elucidate the larger tables. Table A represents a gradually descending ratio of mortality; B represents the meteorology, and the death-rate from all and several causes at all ages, and from all causes at several ages, in the consecutive order of the months in each year; table C represents a comparison of the meteorology and mortality of the several corresponding months of the different years.

Part I. consists of ten sub-divisions, which we shall attempt to analyze:—

I.—THE INFLUENCE OF WEATHER UPON MORTALITY FROM ALL CAUSES.

Here the author draws attention to the difference between mortality and disease: “we shall fall into error if we suppose that the season of highest mortality is always the season of greatest sickness. It not unfrequently happens that certain seasons which are characterized by a maximum of sickness, are, at the same time, distinguished for their low rate of mortality; and contrariwise, seasons which may be somewhat remarkable for the general health of the public, may, by their influence upon one or two classes, present a high death-rate. Having abandoned the *morbidity* statistics “as next to worthless,” he proceeds to point to disease through mortality only.

Using the terms *maximum*, *major*, *minor*, and *minimum* of

mortality, the following table of the mortality of six years shows the distribution of the months:—

	Maximum.	Major.	Minor.	Minimum.
January,	4	1	1	—
February,	3	3	—	—
March,	4	1	1	—
April,	2	2	2	—
May,	—	3	2	1
June,	—	—	4	2
July,	—	1	2	3
August,	—	1	—	5
September,	—	—	1	5
October,	—	—	4	2
November,	1	5	—	—
December,	4	1	1	—

The order of the months, as determined by an average of the six years, is as follows:—

	Death-rate.		Death-rate
Maximum,	{ January, 265·3	Minor,	{ May, 219·5
	{ February, 257·4		{ June, 208·6
	{ March, 249·8		{ July, 204·5
Major,	{ December, 247·9	Minimum,	{ October, 198·2
	{ April, 242·8		{ August, 189·4
	{ November, 237·1		{ September, 187·7
Mean, 225·7.			

The six years are 1861, '62, '60, '57, '59, and '58, and the relations which the months of the different years bear to each other are thus set down:—

	Maximum Mortality.	Major.	Minor.	
1861,	304·1	—	—	} Mean, 265·3.
1862,	296·6	—	—	
1860,	280·8	—	—	
1857,	253·2	—	—	
1859,	—	243·4	—	
1858,	—	—	214·0	

The four Januaries in the *maximum* column are those of 1861, '62, '60, and '57; the January in the *major* column is that of 1859; and that in the *minor* is of the year 1858.

Taking first the maximum section, we find that January, 1861, was intensely cold, with unusually high barometrical pressure. January, 1862, was remarkable for its great depth of rain, large number of rainy days, and small amount of sunshine, with a high mean temperature. January, 1860, had a mean temperature less than average of preceding Januaries, with less sunshine, greater amount of cloud, greater amount of humidity, and rain as well as unusual preponderance of north-east wind. This was the most severe January of any during, at least, thirty-four preceding years. So much for the weather of those months whose death-rate is above the average of the six years.

January, 1857, weather average, began and ended with a snow-storm. This concludes the analysis of the maximum section.

January, 1859.—Weather mild, but unusually stormy and rainy: winds, W. and S.W. January, 1858.—Very mild. “At Sandwick, wall-flower, stock, carnation, and borage were in flower, so as to yield a bouquet on the 1st of January, while the hepaticas were in flower on the 4th. At Aberdeen, the hazel and snow-drop were in flower on the 25th; and at Banchory House the *rhododendron ponticum* was in flower on the 29th; the thrush was often heard singing during the month at Scourie, and the lark at Aberdeen.”

From these data the author concludes “that the general term of a ‘mild’ or ‘open’ January corresponds with a low rate of mortality, a ‘severe’ January with a high rate of mortality.” On a similar plan, Dr. Jackson considers the months of March, December, November, and August. Of these we need only remark on the anomaly of November, 1858, which, with the lowest death-rate of all the Novembers, “was cold, wet, and windy to an unprecedented degree. The barometer was lower, and more uniformly low, than in any month of the last six years. The mean temperature was lower than in any November through the same time.” August and September, 1857, present an exceptional death-rate, particularly the former month, of which the Registrar-General reports:—“The mean temperature in August realized the very unusual height of 60°; and as July, also, and the beginning of September, had mean temperatures higher than usual, bowel complaints (diarrhea, dysentery, and cholera) became so prevalent and fatal, that instead of only fifty-six dying from these complaints in every hundred thousand persons, as in 1856, no fewer than 112 deaths occurred, in a like population, in 1857.”

The Influence of Temperature upon Deaths from all Causes.—The

relationship existing between temperature and deaths, from all causes, is described as follows:—

Mean of	Mortality.	Mean Temperature.
Maximum Section,	269·49	38·3
Major „	233·25	43·1
Minor „	214·26	49·5
Minimum „	185·85	54·3
<hr/>		<hr/>
Mean of the 72 months,	225·71	46·3

From another table, the figures of which could not well be set before the reader in the present brief notice, the conclusion is arrived at, “that for every diminution of mean temperature below 50°, there is a corresponding increase of mortality; but that from mean temperatures above 50° a diminution is favourable to vitality, at least if the temperature have been for any length of time above 50°. In other words, mean temperature and mortality from all causes have an inverse relationship below 50°, a direct relationship above 50°.”

Monthly Range of Temperature.—The relation of monthly range of temperature to the death-rate from all causes is shown in Table A, the means of the four sections being as follows:—

Section.	Mortality.	Monthly Range of Temperature.
Maximum,	269·49	36·4
Major,	233·25	37·2
Minor,	214·26	39·6
Minimum,	185·85	33·9

From this and another table, it is inferred “that for three quarters of the year the relationship of monthly range of temperature and the death-rate from all causes is inverse, the greater the range the lower the mortality; but that during the months of July, August, and September, the relationship is direct—the greater the range the greater the mortality.”

Mean Daily Range of Temperature.—From two tables a similar relationship is indicated between mortality from all causes and the mean daily range of temperature, as was noticed with respect to the monthly range of temperature.

The Combined Influence of Temperature and Humidity.—The relative effect of a dry and a humid cold upon the death-rate is

shown in the following table, which we give as a specimen of many others:—

Months.	Mean of the Six Years				Dry Cold				Humid Cold			
	Mean Temp.	Rain-fall	Humidity	Mortality	Mean Temp.	Rain-fall	Humidity	Mortality	Mean Temp.	Rain-fall	Humidity	Mortality
January, -	37.4	3.82	88	265.3	35.7 37.3	2.77 2.98	87 86	253.2 214.0	35.5 39.6	4.56 4.21	89 87	280.8 243.4
February, -	38.2	2.32	87	257.4	39.3 40.1	1.54 1.88	89 89	250.1 251.3	39.5 40.5	3.32 3.48	88 88	228.1 246.9
March, -	39.8	3.55	86	249.8	38.4 39.5	3.52 1.95	86 85	283.2 257.8	37.8 39.2	3.63 2.94	88 86	236.7 240.0
April, -	43.2	2.11	82	242.8	41.5 43.8	1.18 1.86	82 78	290.2 227.1	41.3 44.6	3.20 2.99	80 83	232.7 250.0
Means, -	39.7	2.95	86	253.8	39.7	2.21	85.2	253.4	39.7	3.53	86.1	247.3

In this table there is a tendency to support the general belief that a *dry* cold is more fatal than a *humid* cold. As opposed to this view, however, may be taken the data of the Januaries and Aprils; and the reader's attention is directed to a table on p. 24, where is exhibited the growing mortality consequent upon a continued low temperature; as also to another, showing the evil effects of continued high temperature.

The Influence of Vicissitudes of Atmospheric Pressure.—The reader is here reminded “that the average monthly range of the barometer for the six years under examination is not more than 1.262 inches,” and, consequently, that much importance must be attached to its oscillation, even to the extent of a single line. Under the head *Mean Height of Barometer Reduced to Sea-level and 32 F*, we find several tables of more or less intricacy; the general conclusion to be deduced from them may be stated thus:—That high and low barometric readings are both more conducive to vitality than a medium reading; and that a low barometer is more fatal than a high one. Further, it would seem “that over the whole year, and in the seasons of Winter, Spring, and Summer, the relationship between the mean monthly height of the barometer and the death-rate is *inverse*, but that in the Autumn it is *direct*.” From two tables the author arrives at the conclusion “that the mortality from all causes bears a direct relation to the range of the barometer. The greater the range of the barometer the greater the death-rate, and *vice versa*.”

The Influence of Drought and Humidity.—The influence of the relative amount of moisture upon mortality is tested from three

points. *First*, with reference to the number of rainy days; *second*, with reference to the quantity of rain-fall in inches; and, *third*, with respect to the relative saturation of the atmosphere with moisture, as ascertained by means of Mr. Glaisher's hygrometric tables. "A rainy day" being here considered as a day on which any amount of rain falls, the general indication, from various tables, is—that the mortality is greatest in those months which have the greatest number of rainy days; and that the relationship existing between the amount of rain-fall and the mortality from all causes is direct over the whole year. Under the head *Humidity*, some data in one table would indicate that dry air, irrespective of temperature, is more fatal than a humid atmosphere; while others tend to corroborate the opinion that *dry cold* is more fatal than humid cold.

On the Influence of Certain Winds.—From the first table under this head we have a general indication of a direct relationship between mortality from all causes and winds from a point between S. and W. The due E. wind shows little or no predominance in one section more than another. The S.E. wind shows a tendency to blow directly as the mortality, but not uniformly through all the four sections. The due S. wind, with the exception of the first section, blows inversely as the mortality. The N.W. wind affords no determinate relationship. From a second table it may be inferred that all winds between N.W. and S.E. (North about) are directly related to the death-rate; whilst those winds blowing from points between S.E. and W. (South about) have an inverse relationship. It would seem, moreover, that calms, or slight shifting winds, are less frequent when the mortality is high than when it is low.

Under the head *Force of Winds* the pressure of the wind is given in lbs., and the deduction is, that whatever be the exact pressure of the wind, it acts in a twofold manner on the death-rate, each influence compensating the other. Thus, by high winds and stormy weather, the death-rate will be increased by casualties afloat and ashore, and the fatal exhaustion of debilitated persons. On the other hand, a low pressure of wind causes atmospheric stagnation, and loads the air with pestilent effluvia, beside promoting the spread of zymotic diseases. A breeze of wind on land sweeps out the hot-beds of disease, clearing them of the products of animal and vegetable putrefaction, and rendering them wholesome habitations for the human family: just as in another sphere of usefulness it turns up the surface of the wide ocean, preserving its waters from corruption, and imparting the very essence of life to its creatures.

Repudiating the notion that his treatise exhausts the subject of it, or even the information to be derived from the tables, the author claims nothing more than his having examined its leading characteristics, without endeavouring to propound or substantiate any theory whatever. He then recapitulates the inferences or indications, which occupy only one page, and proceeds to consider—

II.—THE INFLUENCE OF WEATHER UPON MORTALITY FROM SPECIAL CAUSES.

The first head considered under this second division of the subject is:—A. *The Influence of Weather upon Mortality from Zymotic Diseases*.—The zymotics are here treated as a class; but in the tables we have the death-rates from three specific diseases—namely, typhus, scarlatina, and diarrhea. It would seem that during the colder months we have an *inverse* relationship between the height of the barometer and the death-rate from zymotic diseases, while during the warmer months the relationship is direct. One of the tables tends to prove that with a high death-rate from zymotics, there was also *breezy* weather, contrary to what might fairly have been presumed. No explanation can be given as to the share of the weather in influencing fluctuations in the death-rate from zymotic diseases, though no one will doubt that such influence really exists. B. *The Influence of Weather upon Mortality from Phthisis Pulmonalis*.—Taking phthisis as the fair and most fatal type of tubercular diseases, we find, from three tables:—

“1.—That a low mean temperature of the Winter months gives rise to an increase in the death-rate from phthisis, and that this relationship is the more clearly observable if the low temperature be sustained for some time without intermission, as in the case of the months from November, 1859, to February, 1860, inclusive. A high Summer temperature does not seem to increase the fatality of phthisis. It is only when the temperature of Winter is remarkably low that the increased death-rate from phthisis is distinctly traceable to that cause.

“2.—That the relationship between the monthly range of temperature and the death-rate from phthisis is uncertain, and that the latter is not under the control of the former.

“3.—That the daily range of temperature exerts no constant influence upon the death-rate from phthisis.

“4.—That there is no constant relationship observable between the mean monthly height of the barometer and the death-rate from phthisis.

“5.—That if there be any indication of a constant relationship between the monthly range of the barometer and the death-rate from phthisis, it is that the death-rate increases with the range.

“6.—That the rain-fall bears no constant relationship to the death-rate from phthisis. It is possible, however, that it may be inverse in the colder, and direct in the warmer months.

“7.—That possibly an increase in the number of days, during which north, north-east, and east winds prevail, may give rise to an increase in the death-rate from phthisis.”

C. *The Influence of Weather upon Mortality from Bronchitis.*—After some very sensible observations on the grounds of a choice of climate in diseases of the respiratory organs as compared with phthisis, the author elaborates three tables, from which, if they are to be trusted, it would seem:—

“1.—That there is an inverse relationship between temperature and the death-rate from bronchitis in all seasons, but that this is more remarkable in the Winter months, and especially when the cold is severe and protracted.

“2.—That possibly there may be an inverse relationship between the monthly range of temperature and the death-rate from bronchitis over the whole year, but the relationship varies with the season.

“3.—That the relationship between the daily range of temperature and the death-rate from bronchitis also varies with the season, but there is no indication of any constant correspondence.

“4.—That possibly the relationship between the mean height of the barometer and the death-rate from bronchitis may be inverse in Summer, and direct during the remainder of the year. And that there is no constant relationship between the death-rate from bronchitis and the monthly range of the barometer.

“5.—That the rain-fall does not influence the death-rate from bronchitis, . . . but that the state of the barometer, and the hygrometric condition of the atmosphere, do exert a powerful influence upon the mortality from bronchitis, and that the reason why such influence is not more distinctly visible is this—that whilst a dry atmosphere with a high barometer is prejudicial to one class of bronchitic patients, it favours another, and *vice versa*—so that the one class balancing the other, the influence is not discoverable upon the whole death-rate.

“6.—That the north, north-east, and east winds decidedly tend to increase the death-rate from bronchitis.”

D. *The Influence of Weather upon Mortality from all Causes, at*

Different Ages.—Under this head we have the following deductions:—

“ 1.—That a protracted low temperature in Winter largely increases the death-rate amongst children under five years of age; and that the death-rate rises almost immediately upon the fall of the thermometer, and falls again so soon as the temperature begins to rise.

“ 2.—That a continued low temperature perceptibly increases the death-rate amongst those between five and twenty years of age, though to a much less extent than in infancy; and the mortality curve does not rise so suddenly upon the fall in the curve of temperature.

“ 3.—That continued cold also raises the death-rate amongst adults, more perceptibly than in youth, but less than in infancy.

“ 4.—That in old age continued cold is prejudicial, but the death-rate does not rise so suddenly as either in infancy or in adult life.

“ 5.—It would appear from the foregoing remarks, that severe Winter weather induces acute inflammatory diseases in infancy and adult life, rapidly cutting off its victims; that it increases the death-rate of the aged by aggravating chronic diseases; and that it probably cuts off only those in youth who are previously debilitated by some exhausting disease, as phthisis.

“ 6.—That a high temperature in Summer, especially if long sustained, increases infantile mortality.

“ 7.—That such high Summer temperature scarcely affects the death-rate in youth.

“ 8.—That it slightly increases the mortality in adult life.

“ 9.—And that it also slightly increases the death-rate of the aged.

“ 10.—That care ought to be taken to avoid exposure to the direct influence of the weather when the mean temperature sinks below 39° in Winter, or rises above 57° in Summer.”

A “general *resumé*,” and a number of elaborate tables, bring this work to a conclusion. There can be no question of the fact, that treatises, such as this, tend greatly to raise our profession in the eyes of the educated laity, and to place it in its true position before scientific men. We beg to congratulate Dr. Scoresby-Jackson on the publication of his treatise, and we cordially recommend it to the thoughtful study of our profession.

Lectures on Syphilitic and Vaccino-Syphilitic Inoculations; their Prevention, Diagnosis, and Treatment. Illustrated by Coloured Plates. By HENRY LEE, F.R.C.S.; Senior Surgeon to the Lock Hospital and Asylum, &c., &c., &c. Second Edition. London: Churchill and Sons. 1863. 8vo, pp. 335.

MR. HENRY LEE'S views as to the distinctions between the different modes of origin of different syphilitic affections were, for the first time, pointed out in 1854, when the first edition of the lectures, now before us, was published. Since then these distinctions have attracted a large share of public attention at the hands of both English and Continental writers, and assuredly, well deserve the careful consideration of observers who are desirous of elucidating the still profoundly perplexing phenomena of syphilitic affections.

Various authors who have written during the present century on the subject of syphilis may be thus classified according to the doctrines which they have respectively advocated:—

1st. Those who, with John Hunter, regarded all syphilitic affections, including gonorrhea, as depending upon the same poison.

2nd. Those who distinguish between gonorrhea and syphilis, and ascribe them to the action of poisons essentially different in their nature.

3rd. Those who believe in the plurality of venereal poisons, conceiving that several distinct forms of primary venereal sore exist, each liable to be followed by a train of secondary symptoms peculiar to itself.

4th. The school, of which Ricord is the champion, which admits the difference between gonorrhea and syphilis, but divides the latter into two, viz., syphilis which infects the patients constitution and that which does not.

Some authors of the last class regard each of these diseases as arising from a separate poison, and consequently acknowledge three poisons as habitually producing contagious diseases of the generative organs, that is to say, three distinct venereal diseases, of which one only is liable to be followed by the phenomena of secondary venereal contamination.

To the last group Mr. Henry Lee virtually belongs, without, however, admitting that the existence of each poison is capable of demonstration. "It does not follow," he observes, "that

because we can distinctly trace so many morbid processes, that there are the like number of morbid poisons. The diseased actions we can trace with great precision, and can predict the circumstances under which they will occur, and define distinctly the laws by which they are regulated and controlled. It is, therefore, more in accordance with strict inductive science, simply to describe the different *modes of action* which occur after impure contact, than to ascribe each different action to a different poison."

In these lectures, then, the author treats, for the most part, of the morbid processes to which the contact of syphilitic matter gives rise, and of the results which follow. The kind of chancre, commonly known at present as the non-infecting, he designates as the *primary suppurating syphilitic sore*; he describes it as a local disease, never producing secondary symptoms, commencing as a pustule, and running a definite course, not beneficially influenced by mercurial treatment, though sometimes tedious (three or four months) in healing.

"When artificially inoculated, the inoculated point becomes red within the first twenty-four hours. From the second to the third day it becomes slightly raised, and is surrounded by a red areola. Between the third and the fourth day it contains a fluid more or less turbid. From the fourth to the fifth day the pustule becomes fully formed, and from this time to the termination of the disease the secretion consists of well-formed pus. Sooner or later, the cuticle covering the pustule is detached, and in some instances it may be removed at the time of the inoculation, whether artificial or natural. This alters the appearance of the affection, but in nowise interferes with its essential characters. As soon as suppuration commences, there is a loss of substance in the part, and an ulcer forms, which has peculiar characters. When not interfered with by any accidental causes, it increases equally in every direction, so as to form a more or less perfect circle. The edges of the ulcer are cleanly cut, and present a sharp outline. The appearance presented is often that of a piece of skin having been removed by a punch. The edges of the ulcer are frequently slightly undermined and everted. The surface of the ulcer is irregular, sometimes presenting granulations, at other times presenting the appearance of having been worm-eaten. Often the bottom of the ulcer is covered by an adherent, greyish, tough matter, which probably is a part of the natural texture which has undergone a kind of molecular necrosis, and is in process of being separated from the subjacent living parts. . . . The suppurating syphilitic sore gradually increases during a certain period, then remains stationary, and finally heals."

Various accidental causes may modify the appearance and progress of this typical form of suppurating chancre:—

1st. If destroyed by caustic within the first five days, a simple ulcer alone remains.

2nd. Its shape and appearance may be modified by meeting, during its progress, with different textures.

3rd. If the specific inflammation extends to the areolar tissue, inflammatory exudation takes place there, causing an induration closely resembling that which accompanies the infecting chancre, and gives rise to the *phlegmonoid variety* of suppurating syphilitic sore.

4th. Lymphatic absorption of the product of the sore giving rise to a bubo secreting specific pus.

According to Mr. Henry Lee, the local symptoms which are the forerunners of syphilitic infection of the system are extremely difficult to recognize; syphilitic infection does not manifest itself immediately on the application of the poison; there is a period of incubation lasting from three to seven weeks, after which the primary disease will manifest itself, commencing as a crack, an abrasion, or a pimple. When the disease has thus declared itself, cauterization is of no avail to prevent constitutional symptoms. When the period of incubation is once passed the appearance of a sore is in itself proof that the system is already infected. “Infecting sores that have been destroyed on the very day of their appearance have subsequently continued to spread, and have produced their natural consequence. Even if the sore be cut out the infection of the patient’s system will not thereby be prevented.” When this terrible enemy which has been lying in ambush during the weeks of incubation manifests itself, it does so under one of these forms, all of which are modifications of the adhesive kind of action.

1st. The cuticle may appear as if peeled off from the glans; or a circumscribed patch, of a livid or purple colour, may remain for days, and continue without any specific induration, merely throwing off epithelial scales and lymph globules.

2nd. An indurated tubercle may form in the skin, or under the mucous membrane, with the specific induration well marked, but without ulceration.

3rd. The most usual form, known as the indurated or Hunterian chancre, in which the specific induration co-exists with ulceration.

The first two forms in which syphilitic infection declares itself

have not, as Mr. Lee conceives, been recognized by the majority of writers on syphilis, and hence many cases have been erroneously recorded in which constitutional syphilis was supposed to have been acquired without any primary affection. The characteristic induration accompanying the second and third form is the diagnostic test of the true nature of the complaint; it terminates quite abruptly, and is as if a piece of cartilage or a pea were introduced under the skin or mucous membrane. Yet this induration, however valuable as a proof of the infecting character of the sore which it accompanies, cannot always be distinguished from the hardness which surrounds the phlegmonoid variety of suppurating (non-infecting) sore. The diagnosis, nevertheless, of the one from the other is of much importance, for admittedly the latter form of chancre is "not beneficially influenced by mercurial treatment;" and the practitioner who unnecessarily mercurializes a patient is inexcusable. What, then, it may be asked, are the diagnostic points on which Mr. Lee relies in this case? On the microscopic appearances of the secretions furnished by the sores (as figured in the volume before us), and on the inferences to be drawn from the re-inoculability, on the patient himself, of these secretions. This latter is indeed a matter of the greatest interest as regards the natural history of venereal disease.

As our readers are very well aware, John Hunter and his followers believed that the inoculation of gonorrheal matter was followed by the production of a syphilitic sore; in other words, that one and the same virus gave rise to gonorrhea and syphilis. One of the first authors who successfully combated this view was J. F. Hernandez,^a who, in a prize essay presented, in 1810, to the Medical Society of Besançon, came to the conclusion of the non-identity of gonorrhea and chancre. His observations were made on criminals. Having made experiments, by inoculation, on seventeen individuals, and closely watched the result, he concludes:—"My experiments prove that the ulcers which are produced by the inoculation of the gonorrheal virus are not syphilitic." It was not, however, until, in 1838, when Ricord published his *Traité Pratique sur les Maladies Vénériennes*, that the true value of inoculation began to be generally recognized. At this time, which must ever be remembered as an important epoch in the history of syphilis, Ricord daily demonstrated to his pupils the facts—

^a *Essai Analytique sur la Non-identité des Virus Gonorrhéique et Syphilitique.* Par J. F. Hernandez. Toulon, 1812.

1st. That when pus, taken from the urethra of a patient suffering from gonorrhea, was inoculated upon the patient, no result followed.

2nd. That when pus, taken from a chancre (a non-infecting or primary suppurating chancre) was inoculated with a lancet on the same patient, a chancre (of the same kind) was always produced.

When Ricord established, beyond dispute, this important point as to the difference between gonorrhea and syphilis he had not yet recognized the difference, as regards inoculability, between the simple, or *non-infecting* (suppurating chancre of Lee), and the infecting chancre. No one can doubt that much of the more precise knowledge which has, of late years, been gained, with reference to the inoculability of the virus of the infecting chancre, is due to the keen observation of Mr. Henry Lee. Few syphilographers deny the truth of Ricord's assertion of 1838, if it be admitted to apply to the simple non-infecting chancre. This kind of chancre may be repeatedly inoculated on the same individual, producing a sore like the parent. Ricord says its inoculability is its only certain diagnostic mark. One very important and interesting fact, concerning the re-inoculation of this kind of chancre, requires especial notice, viz. :—

“That after repeated inoculations have been made on a part, that part becomes less and less susceptible to the influence of the poison, and a time arrives at which the inoculations will cease to secrete pus, and then they will no longer be inoculable. If fresh matter, however, be used, the inoculations will again succeed; but these will gradually lose their effect, as at first. This process may be repeated until a part is no longer susceptible to any inoculation from the secretion of a suppurating syphilitic sore. But then a fresh part may be inoculated, and the same process repeated. Under this mode of treatment it is said that a time ultimately arrives at which no further inoculation can be effected from a suppurating sore upon any part of the body. Even then, however, after the lapse of a certain interval, the suppurating syphilitic sore may again be communicated, but always without imparting any constitutional or syphilitic taint to the patient.”

According to Ricord's later views an indurated chancre is never produced more than once in the same subject. If this dogma be accepted, one is prepared to admit the fact, which M. Clerc announced in 1855, and which Mr. Henry Lee tested experimentally in the Lock Hospital, London, in 1856, viz., that once the characteristic induration has been established an infecting chancre

can no longer be re-inoculated on the same individual. Inoculation with the virus of an indurated chancre, performed upon the individual who has the chancre, is either sterile or produces a sore without induration, rarely ulcerating; and, if so, healing up soon. There is, upon the whole, considerable unanimity among the syphilographers of the last eight or ten years upon this subject; and some very remarkable statistics have been brought forward to show that the virus from an infecting sore cannot be re-inoculated upon a person who has already had an infecting sore, so as again to produce an indurated chancre and a second time to contaminate the system. In fact, inoculation with the virus of an indurated sore, performed upon a person who has already had such a chancre, is either sterile or produces a sore without hardness, but which propagates itself in a third healthy person as an indurated (infecting) sore.

If the virus of an infecting chancre be taken during the early stage, before the chancre has become indurated, then it may be inoculated upon the same individual so as to produce an indurated sore. The induration is the first symptom of a diathesis; it is not only the necessary prelude to constitutional syphilis, but it is, in itself, evidence that the system is already contaminated. Hence, after it has once taken place, no other indurated chancre can be again produced in that individual. Once a sore has declared itself, by its characteristic induration, to be an infecting chancre, cauterization is of no avail. "A sustained, judicious, and constitutional mode of treatment is the only one that can be relied upon in the treatment of this disease." As to the advisability of a steady, prolonged mercurial treatment, for the cure of true syphilis, Ricord and Mr. Henry Lee may be said to be in harmony.

Mr. Henry Lee, as appears from the foregoing imperfect analysis of his views, belongs to the class already mentioned which admits the difference between gonorrhea and syphilis, and regards the latter as consisting of the infecting and non-infecting forms; whether these forms of disease be regarded as arising in all cases from essentially distinct poisons, or whether they may be regarded as the result of "*the different modes of action*" of one and the same poison makes little practical difference. According to Mr. Henry Lee and other learned syphilographers, the one contaminates the system, the other never does; the one requires mercury for its cure, the other does not. In establishing, therefore, with considerable precision, the peculiar characteristics on which is based the differential diagnosis between these two forms of chancre, the

writers on syphilis of later times have done a great service to mankind; they have driven mercury back to its last stronghold, and have limited the mercurial treatment of venereal diseases to true infecting syphilis. How terribly has mankind suffered while scientific observers were slowly advancing to this point of knowledge. It is, indeed, interesting, and at the same time, we must confess, humiliating, to look back over the history of the mercurial treatment of venereal diseases. John Hunter, regarding all venereal diseases as arising from a common virus, recommended mercury, even in the treatment of gonorrhea. In speaking "of the treatment of the constitution in the cure of gonorrhea,"^a he says, "whatever methods are used for the cure, either locally or constitutionally, it is always necessary to have in view the possibility of some of the matter being absorbed and afterwards appearing in the form of a lues venerea, to prevent which I should be inclined to give small doses of mercury internally." Gently as this recommendation was given, we know to what a frightful extent it was followed by the pupils of the great man who gave it. Many among us may still remember the bold, vigorous, and fearless language in which Sir Astley Cooper, not very long before his death, in 1841, denounced gonorrheal mercurialists, who, blinded by prejudice, still pursued their horrid practice, no doubt, in perfect sincerity. "It is lamentable to think," says Sir Astley, in his lectures,^b "on the number of lives which must have been destroyed by phthisis and otherwise, in consequence of the imprudent exhibition of mercury which prevailed among the older surgeons for a disease which did not require it. At the present time, however, a surgeon must be either grossly ignorant or shamefully negligent of the duty which he owes to the character of his profession, and to the common dictates of humanity, if he persists in giving mercury for this disease. Let those persons who suppose that gonorrhœa can be cured by mercury, go round our wards, and see whether mercury has any effect on that disease. Look, gentlemen, at 100 patients in our foul wards, many of whom come into the hospital with syphilis and gonorrhœa; and many, I am sorry to say, who have only gonorrhœa, but who are invariably carried to these wards. What is the miserable treatment of these patients? You are aware, gentlemen, that I scarcely ever enter the foul wards of the

^a A Treatise on Venereal Diseases. By John Hunter. London: 1786. P. 86.

^b Lectures on the Principles and Practice of Surgery. By Sir Astley Cooper, Bart. Fourth Edition. London: 1835. P. 464.

other hospital;—when a particular case demands my attention, I have the patient removed to a clean ward. I will tell you why I do not enter those wards, gentlemen. I abstain from entering them, because patients under gonorrhœa are compelled to undergo so infamous a system of treatment that I cannot bear to witness it. To compel an unfortunate patient to undergo a course of mercury for a disease which does not require it, is a proceeding which reflects disgrace and dishonour on the character of a medical institution. No consideration shall induce me to repress my feelings on this subject; no authority shall restrain me from giving full expression to those feelings. As long as I continue a surgeon of Guy's Hospital I will endeavour to do my duty; but I care not whether I continue a surgeon of that hospital another day. I do say that the present treatment of patients under gonorrhœa in these hospitals, by putting them unnecessarily under a course of mercury for five or six weeks, is infamous and disgraceful. The health of a patient is, perhaps, irremediably destroyed by this treatment; and, after all, not the slightest effect is produced by it on the disease. If he is cured of his gonorrhœa at all, he must be cured by other means. If you go to a patient for gonorrhœa in the foul wards, at the end of his course, and ask him how many times he has rubbed in, he will generally answer 'twenty-eight times.' If you ask whether he is salivated, he will tell you that he spits three pints a-day; but ask him whether his gonorrhœa is cured, and he will reply, 'No, I have a clap still upon me.' His disease is not in the slightest degree affected by the mercurial course to which he has been so unpardonably subjected, and it will soon after be necessary to cure him by injections or other means. When so infamous a practice prevails, I cannot satisfy my own feelings by resorting to milk-and-water language; every man of common feeling and honesty is bound to speak out on such an occasion."

Sir Astley Cooper, although admitting "that chancres, for which no mercury has been given, are not always followed by secondary symptoms," and well aware of its injurious influence on the constitution, nevertheless, advised the administration of mercury for the cure of chancres.

The keenly-observant Colles, doubted if any chancre would get well without mercury, and strongly advocated the mercurial treatment of venereal ulcers. "I once asked Mr. Pearson," he says, in his lectures, "when he was in full practice in these cases, if he

ever knew a chancre to heal of itself. His answer was, '*I think I did.*' So you may conceive how unusual such an occurrence is, if it takes place at all." Sir Benjamin Brodie, in his admirable observations on the administration of mercury in cases of syphilis, observes, "you are not then to suppose that you are to administer mercury, as a matter of course, in all cases of syphilis; but *the general rule is, that it should be given.*"

We are now taught, by Ricord, Lee, and other careful investigators, whose assertions are supported by many observations and experiments, that the kind of chancre which we most frequently meet with in practice (the simple, non-infecting, or suppurating) is a disease which does not contaminate the system, and which does not require mercury for its cure. To mercurialize in such cases is as unnecessary for the cure of this disease as it would be for the cure of gonorrhea; and the practitioners who, in the present state of knowledge, mercurialize patients for the cure of simple chancres, are deserving of the censure passed by Sir Astley Cooper on the gonorrheal mercurialists of his time. There cannot now be any reasonable doubt that much of the diversity of opinion, many of the strangely antagonistic views of writers on syphilis, as well as a deal of useless controversy in the debates which have taken place on the subject of venereal disease, must be attributed to the want of a clear understanding of the distinction between the different kinds of primary syphilitic sores. Those individuals who have striven to establish with precision this distinction, and who have endeavoured to lay down definitely the characteristics whereby the one form of disease may be diagnosed from the other, have done much to clear away the contradictions, inconsistencies, and confusion which surround the writings of syphilographers. They have done much to save mankind from the baneful influence of mercury uselessly administered. Among them the name of Henry Lee will not be forgotten.

We regret exceedingly that the limited space at our disposal does not permit of our giving an analysis of Mr. Lee's lectures on Syphilization (so called), Lymphatic Absorption, and Vaccino-Syphilitic Inoculation. We must content ourselves to draw to a close this notice of his truly valuable work, with a brief account of his doctrines regarding inoculation with the blood of syphilitic patients, and the transmission of secondary syphilis.

Mr. Henry Lee believes the fact to be incontestibly established that inoculation with the blood of a syphilitic person produces

syphilis in a healthy one. He grounds his belief, for the most part, on the experiments of Professor Pelizzari, who inoculated five persons with the blood taken from syphilitic subjects. In four out of the five the inoculation was sterile, and the result of the experiment negative. In one case (that of Dr. Bargioni, inoculated on the 6th of February, 1862,) a small papule made its appearance, at the seat of inoculation, about a month after the operation. This increased in size, so that on the eighth day it was as big as a twenty-centime piece. "On the eleventh day it was covered with a very thin adherent scale, resembling silver paper, which, upon the two succeeding days, became denser and less adherent, and in its central part commenced to crack. On the fourteenth day two axillary glands became enlarged to the size of nuts, and were movable and indolent. The papule remained indolent, but its sensibility was slightly increased. On the 19th pressure upon the crust caused a small amount of sero-purulent matter to exude from beneath its edges, the pressure giving a little pain. The axillary glands had now become larger and harder, but continued indolent. There was no induration apparent at the base of the papule. On the 21st the scale was transformed into a true crust, which had commenced to be detached at its edges; and the part beneath was ulcerating. Slight induration now appeared at the base. On the 22nd the crust was detached, and a funnel-shaped ulcer presented itself, with elastic and resistant borders, forming an annular induration. These edges were swollen, adherent, and obliquely inclined towards the base of the ulcer, which was covered with a very small amount of secretion. The pain was trifling. Dry charpie only was applied. On the 26th the ulcer had extended itself to the size of a fifty-centime piece. It secreted more, and the surrounding induration was considerably increased. Up to the 4th of April this ulcer remained stationary, but at that date its base appeared to be granulating. The corresponding glands remained swollen, hard, and indolent. There appeared at this date trifling nocturnal pains in the head, and the posterior cervical gland became somewhat enlarged. On April 12th there appeared upon the surface of the body, particularly upon the sides of the chest, and in the hypochondriac regions, spots of irregular form and of rose colour, unattended by any inconvenience to the patient. The glandular swellings of the neck were well marked. This eruption extended itself, and became more confluent during the succeeding days. No constitutional disturbance, heat of skin,

nor pruritus, accompanied this eruption, which went on increasing for eight days. On the 20th the cervical glands had increased in size, and were harder. The chancre maintained its specific character, and exhibited no tendency to cicatrization. On the 22nd the colour of the eruption was decidedly coppery. Small lenticular papules were now perceived to be mixed with the erythema. The edges of the chancre had begun to granulate. Mercury was now commenced."

It is necessary, as we think, to be cautious in concluding that the symptoms detailed in the foregoing experiment were really due to syphilitic contagion. "*Si in dubio suspice venerem*" is an adage that some are too prone to follow. It must be remembered that four other persons inoculated had no such results. Indeed when one reflects on the erroneous conclusions and the disastrous consequences which followed John Hunter's experiment,^a made, we believe, on himself, by the inoculation of gonorrheal matter, we may well be unwilling to trust too much to the result of one experiment, on so intricate a subject. We are, however, on the whole, after a careful perusal of the cases and experiments collected by Mr. Lee, prepared to admit that there is a considerable amount of evidence to show that the blood of syphilitic patients and the secretions derived from secondary syphilitic affections are, under certain circumstances, inoculable upon persons who have not previously had the disease.

John Hunter, as our readers very well know, doubted the contagious character of the virus yielded by secondary syphilitic affections, although this fact had been generally admitted before his time. Had Hunter been aware of the fact that syphilis does not occur twice in the same subject, he would have viewed very differently the grounds which formed the basis for his deductions on this subject. Indeed, it is interesting to regard by the light of modern discovery some of his own recorded cases:—

"A young lady had a tooth transplanted, and the tooth fastened extremely well. It continued firm for about a *month*, when the gum began to ulcerate, leaving the tooth and socket bare. The ulcer continued, and blotches appeared upon the skin, and ulcers also in the throat. The disease was treated as venereal, and the symptoms disappeared, but they recurred several times after very severe courses of mercury. She at last got well.

^a See Experiments made to Ascertain the Progress and Effects of the Venereal Poison.—Hunter on Venereal. 1786. Page 324.

"A gentleman had a tooth transplanted, and the tooth remained without giving the least disturbance for about a *month*. The edge of the gum then began to ulcerate, and the ulceration went on until the tooth dropped out. Some time afterwards, spots appeared almost everywhere on the skin. He was put under a course of mercury and all disease disappeared. Some time after, the same appearances returned, with the addition of swelling in the bones of the metacarpus. He was now put under another course of mercury more severe than the former, and in the usual time all the symptoms again disappeared. Several months after, the same eruptions came out again, but not in so great a degree as before, and without any other attendant symptoms. He a third time took mercury, but it was only ten grains of corrosive sublimate in the whole, and he got quite well. The time between his first taking mercury and his being cured was a space of three years."

Mr. Lee, after a very full, careful, and impartial consideration of the subject, concludes that "the experiments and cases which he records appear fully to establish the fact, that not only are the secretions from secondary symptoms inoculable under certain circumstances, but that the blood and the secretions of inflamed mucous surfaces in syphilitic patients (even when no distinct form of secondary disease is known to exist) may be the means of communicating the disease.

In conclusion, we beg to recommend to our readers Mr. Lee's work, in the strongest terms. It is a work of real merit, full of facts, well arranged, and viewed with care and originality.

1. *A Practical Treatise on Diseases of the Skin in Children.* From the French of Caillault. Second edition, with Notes, Appendix, and Formulæ. By ROBERT HOWARTH BLAKE, M.R.C.S., Eng. Churchill. 1863.
2. *A Practical Treatise upon Eczema, including its Lichenous, Impetiginous, and Pruriginous Varieties.* By T. M'CALL ANDERSON, M.D., &c. Churchill. 1863.
3. *Treatment of Diseases of the Skin.* By Dr. WILLIAM FRAZER, &c. Fannin. 1864.

We shall endeavour to group together what otherwise might be separate notices of the above books, deviating from this plan whenever the nature of the subject may seem to demand such

deviation. Caillault's work, already known to the profession, is here reproduced, for the second time, by Mr. Blake, with his own additions, as indicated on the title page; it consists of 331 pages, small octavo, and is clearly printed. Dr. Anderson's work has more pretensions to book-making than Caillault's; it is composed of 134 pages, large octavo; the type is very large, and the cases are spun out to the orthodox length. Dr. Frazer's book consists of 174 pages, foolscap octavo, and contains vastly more matter than Dr. Anderson's, while its type and binding are unexceptionable.

In Caillault's preface we find noticed what the author calls, in a child, "an apparent and a real age." Accordingly, throughout the work, much importance is attached to the study of skin diseases in relation to the evolution of the various ages. At the very commencement this idea is laid down, and with it another of equal importance—that skin diseases in children are, in most cases, symptoms of some constitutional affection. Diseases of infancy are arranged in nine groups, in the order in which they succeed each other as age advances, and not in their order of frequency.

The first section is on "Syphilis," and a considerable portion of the work is occupied with a discussion on phagedenic gangrene. Repudiating the notion that an infant may acquire syphilis by contact during the act of birth, M. Caillault dwells on what he considers a very common cause of acquired disease—infection from the breasts of nurses. He looks on a primary chancre during the first period of life as an exception, and therefore attaches most importance to the transmissible secondary affections, the "mucous patches," which exhibit all the characters of congenital disease. This he views as altogether cutaneous; and, remarking on the statement that it kills a large number of children, observes that, if it be true, "it is owing to the frightful rapidity with which they fall into the cachexia called syphilitic, which is so rapidly fatal."

The "mucous patch" M. Caillault considers the true pathognomic symptom of congenital syphilis; and not only so, but he further observes of this congenital affection that of it the mucous patch "constitutes the whole external manifestation."

As there is great diversity of opinion about this, we may tell our readers (what we are ourselves informed by Mr. Blake) that this "mucous patch" has been described under the following names:—Mucous tubercle, syphilitic tubercle, flat tubercle, flat pustule, syphilitic patch, humid papular syphilide, and condyloma. This "mucous patch," which has as many names as a prince, is neither

tubercular, pustular, nor papular; and we are warned that it should never be confounded with any of the tubercular syphilides, all of which are tertiary and non-contagious, whilst it is secondary and contagious. Mr. Blake, and, we are satisfied, a host of others, do not agree with M. Caillault, that the mucous patch is the sole indication of infantile syphilis. If we adopted any side in this question the controversy would only amount to a cannonade of authorities on both sides—just as Messrs. Peter Poundtext and Habbakkuk Mucklewrath battered each other with texts in the days of Old Mortality. The fact is, there is much to be said on both sides; and, having observed that M. Caillault has a good deal to say for his view, and that he discourses in a lengthened strain on the diagnosis of congenital syphilis, on onychia, vegetations, external appearance, roseola, erythema, and cachectic lesions, we come to the practical part—the treatment.

Commencing with the statement—which, doubtless, many of our readers will dispute or deny—that hereditary syphilis is rare, he recommends mercury, in the form of proto-iodide; and specially advises the treatment adopted by Professor Guillot. Beside the choice of a healthy nurse, or the use of good food, and other hygienic measures, this treatment consists in the use of a julep containing proto-iodide of mercury. The mercurial bath is recommended, and the strength laid down by Professor Guillot is ten grammes of corrosive sublimate with six grammes of hydro-chlorate of ammonia. M. Caillault says that salivation never results from the use of this bath. Mr. Blake does not think the use of strong mercurials at all necessary in infantile syphilis, and states, as the result of his own experience, that the most severe cases may be both speedily and safely cured by hydrargyrum cum cretâ and iodide of potassium, with a careful attention to the hygienic and dietetic means above advised. For our own part we think mercury, in any form, may often be dispensed with; and, when required, we think the mercurial garter of Sir Benjamin Brodie both the safest and most efficacious method of applying it.

Dr. Frazer's remarks on mercurials form Chapter I. of his therapeutical treatise. There is not much in it which we could notice in connexion with infantile syphilis, as its very moderate and fair observations are mainly intended for adult cases. However, in his appended "Formulary" may be found a good form for prescribing an iodide of mercury mixture, and also one for prescribing the chloride.

We need not pause while rapidly passing over the few pages of M. Caillault on "Strophulous Diseases." On their treatment he merely repeats the views of Rayer and Willan, taking a little from each, but adopting *in extenso* the opinions of neither. Dr. Frazer is more to the point. He recommends light and unirritating clothing, mild aperients and antacids, with a tepid bath, "to which some carbonate of soda, borax, or bran is a good addition."

A good deal of M. Caillault's dissertation on his third class, or "Lymphatic Diseases," is devoted to achor—the *tinea faciei* of Frank, the *porrigo larvalis* of Willan and Bateman, the *achore* of Alibert, and the *impetigo larvalis* of Bielt. Distinguishing this eruption from eczema, he observes the perfect integrity of the mucous membrane of the eye, the nose, and the buccal cavity, while the disease renders every part of the face hideous to behold. Nor does he omit to notice, what certainly is an astonishing fact, that permanent baldness or cicatrices in the face never result from achores. The remaining species in this class are pernio (or chilblain) and molluscoid acne—*molluscum contagiosum* of Bateman.

In children the various forms of acne never present themselves, with the exception of that form just described; on the contrary, *acne simplex* is very frequent in adolescence, and *acne rosacea* is generally seen only in the adult. As to treatment of achores, M. Caillault recommends topical applications to moderate the painful itchings of the scalp and face; emollient lotions and cataplasms too long continued should be avoided. The lotions are frequently made with the nurse's milk obtained from the breast; and sulphurous lotions should be reserved for cases in which the achores have a tendency to be transformed into *dartrous* affections, such as eczema or lichen. Baths should be very short in duration, and rendered emollient with bran and gelatine, while the temperature should be very moderate. When a chilblain is marked by simple redness of skin, and a slight swelling of subcutaneous tissue, embrocations of oil of turpentine or of camphorated spirits of wine are recommended, as well as compresses soaked in Goulard's water. M. Caillault further says:—"The most reliable means are embrocations, with a decoction of oak bark, the skin having been previously rubbed with a spirit lotion." Tardieu has applied, with advantage, in cases of non-ulcerated chilblain, the following ointment:—Nitrate of silver, 1 gramme; lard, 30 grammes. Ratier has had satisfactory results from mercurial inunctions; and Jannyot uses a liquid as soon as the itching indicates the chilblain, but not afterwards; it is this:—Oak

bark, 50 grammes; alum, 30; red wine or water, 5,000. Reduce the decoction to two-thirds by boiling, and then add the alum.

The tumours of molluscoid acne, says Caillault, must be cut off or strangled by a ligature. Globular tumours should be opened, and the cavity cauterized; after which the most rational treatment consists in the use of tonics and other strengthening means.

Under the class "Scrofulous Diseases" we have short essays on cutaneous tubercles, subcutaneous tubercles, scrofulous ulcers, and lupus. Scrofulous ulcers in children are, unfortunately, so common in our workhouse hospitals, and the treatment of them, by good feeding, is so well known to all boards of guardians and ratepayers, that little need be said about them here. M. Caillault does not consider lupus as the type of cutaneous scrofula, though he includes it in the class. The force of his reasoning each man will estimate for himself, for it consists in asserting that "lupus is often found in vigorous plethoric subjects who have never presented any trace of scrofula." Three forms are described:—1, lupus affecting the surface; 2, lupus penetrating deeply; and 3, lupus with hypertrophy. This last kind he likens to, and his description amounts very nearly to that usually given of elephantiasis Grecorum. Beside the scrofulous diseases enumerated we also have impetigo.

Celsus has said, with as much truth of our day as of his own, *strumæ vel præcipue medicos fatigare solent*. Accordingly we have here much elaboration touching fresh air, baths, exercise, country residence and "analeptic" diet; to say nothing of a perfect armoury of *Materia Medica*. M. Caillault recommends the acid nitrate of mercury as one of the best caustics for lupus, and speaks confidently of the efficacy of Dupuytren's powder, which the reader will find described among the arsenical formulæ in Dr. Frazer's book. In chronic impetigo Mr. Blake recommends the administration of small doses of sulphur in combination with glycerine; and places great reliance on the local application of liniments or ointments containing oil of cade or creosote.

The fifth class "Dartres (Tetters)," in M. Caillault's work, demands more than a passing notice. Beside the continental belief in the *dartrous constitution*, we must recollect that until the beginning of the present century the word *dartre* has, in France, been the synonyme of a chronic affection of the skin. Frank believed the dartres to be those cutaneous diseases which involved both the rete mucosum and the dermis, in contradistinction to *porrigo*, which only attacks the epidermis.

objectionable of all." He advances a view in which most of us will coincide—that the best classification is one founded upon the nature of the affection, and recommends the nosology published by Dr. A. B. Buchanan in the *Edinburgh Medical Journal* for January, 1863. The following are his conclusions as to the pathology of eczema:—

"1. That the elementary lesion of eczema is not of necessity a vesicle. 2. That it may be an erythematous state of the skin, a vesicle, a pustule, a papule, or a fissure. 3. That impetigo, lichen, and prurigo are merely varieties of eczema, in which the elementary lesions are respectively pustules and papules. 4. That cases of eczema are often met with in which an erythematous state of the skin, vesicles, pustules, papules, and fissures are met with in a combined form."

When an eczematous eruption is at its height, there are four symptoms which, according to Dr. Anderson's experience, are always present in a greater or less degree. These are—1. Infiltration of the skin; 2. Exudation on the surface of the skin; 3. Formation of crusts; 4. Itching. The exudation (2) may be produced artificially by painting over the eczematous surface a solution of potash, which not only produces a copious exudation, but also stimulates the capillary circulation, and thereby induces absorption.

In Chapter II. the *elementary lesions* are considered at some length. Contrary to the followers of Willan, our author holds that a vesicle is *not* the invariable elementary lesion in cases of eczema. He teaches that the vesicular form usually begins with an erythematous eruption, and upon this vesicles are developed. Many of these become pustules, and thus we have an assemblage of *three* elementary lesions. On page 12 an instance in point is given; and certainly Dr. Anderson's theory is not only plausible, but he has a good *prima facie* case—one which only requires extended observation to make it come into fair professional combat with the long-established and—may we say?—*venerable* nosology of Willan.

That the elementary lesion is sometimes a papule, is also supported by an example, which, of course, could easily be multiplied; but that it is occasionally a *fissure*, rests on the *ipse dixit*, or *scripsit*, of our author.

Chapters IV., V., and VI., treat respectively of the causes, diagnosis, and prognosis of eczema. Chapter VII. is on the *constitutional* treatment, and Chapters VIII. and IX. are on the *local* treatment of eczema.

In the case of patients who, with the exception of the eruption, appear to be in good health, Dr. Anderson deprecates the use of the lancet, while he thinks local bleeding advantageous in some few cases. We confess to a strong tendency to demur to any kind of bleeding in cases such as these; it is admitted that it is unnecessary with the great majority, and on the minority no one can fairly ground an argument. Like others, Dr. Anderson recommends Fowler's solution; and very prudently he advises his brethren to adhere to one arsenical preparation, that they may the better know its use and power.

A very large variety of local remedies indicates a general failure in treatment; even so it is here. Where there is extensive infiltration of the skin, potash applications have been successfully used by Dr. Anderson, who lauds the virtues of cold water as an adjunct to their use. He very naïvely suggests the application of hydrocyanic acid in water, or glycerine, where the part is itching, "*instead of giving way to the desire to scratch.*" For our part, we believe that so long as there is itching, there will be scratching; and if the scratching is to be stopped, we must begin by stopping the itching.

Tar is spoken of as very efficacious, and is used at the Glasgow Dispensary for skin diseases, under the name of "*tinctura saponis viridis cum pice.*" This preparation, borrowed from Hebra, to whom the author's work is dedicated, is as follows—common tar, methylated spirit, and soft soap, equal parts. He recommends oil of cade as a more elegant substitute for tar in private practice, and speaks highly of "*Hendrie's Dispensary Petroleum Soap,*" at six-pence per cake. "This," he adds, "is one of the most delightfully perfumed soaps with which I am acquainted."

The reader will please recollect that all the prescriptions in this book, and the formulæ of Mr. Blake in that of M. Caillault, are according to the defunct Pharmacopœias, from which he must render them into "British." Dr. Frazer gives a good deal of excellent matter on the treatment of eczema. We cannot specify much of it here, but suggest consideration of his remarks on the use of cyanuret of mercury, and the value of sulphurous and alkaline preparations.

On the whole, Dr. Anderson's book is a good one, and we recommend its perusal to such as feel a special interest in its subject.

Caillault places successively after eczema, in his fifth class, lepra, psoriasis, pityriasis, and ichthyosis. Without discussing the propriety of placing the last named affection in the same class with the three

preceding, we shall just enter a gentle protest against the name "ichthyosis," which ought to give way to the more correct term, ichthyiasis, and call the reader's attention to the statistical nosology lately published and circulated among the medical profession in Ireland by the Registrar-General. At page 27 of this publication we find *lepra tuberculosa* (elephantiasis Grecorum) called "the leprosy described by Moses"—possibly on the authority of Mr. Erasmus Wilson, whose statement to this effect has been described, at length, as incorrect in a paper in the last number of this Journal.^a

As we should expect, M. Caillault makes precise and minute mention of scabies, the diagnosis of which Mr. Blake enlarges on in the foot-notes. Helmerick's ointment is recommended, and its formula is given at page 174; but Dr. Frazer's remarks are much more to the point. He doubts that the acarus is the real cause of the eruption, and states that the parasite is not always the same, as in Norway a different parasite has been discovered, though both there and here the eruption is identical. As the treatment of this pest is frequently a tedious matter, we give the following extract from page 68 "on the uses of sulphur:"—

"Dr. Belcher, in a paper published in the *Dublin Quarterly Medical Journal* (Vol. XXXIII.), states, that he found the solution of lime and sulphur now in use in the military hospitals, remove psora by a single application; and it has been equally successful in the cases in which I have tried it. It is prepared by boiling one part of quick-lime, two of sulphur, and ten of water, constantly stirring the mixture with a piece of wood until the two former unite, then decanting the liquid, and preserving it in a stoppered bottle. By boiling caustic lime with excess of sulphur, a penta-sulphide of calcium is obtained, mixed with hypo-sulphite of lime ($3\text{CaO} + 12\text{S} = 2\text{CaS}_5 + \text{CaOS}_2\text{O}_2$). In employing this solution a warm bath is first given, then the fluid is well rubbed into all the affected parts with a sponge, for half-an-hour, depositing as it evaporates a yellow sulphurous layer; a second bath removes the stain, and leaves the patient quite cured."

We cannot further analyze M. Caillault's book, or notice much more of its contents. The only remaining part which strikes us as a novelty, is that on "Cachectic Diphtheria," a chronic form of our modern foe.

^a The Hebrew, Mediæval, and Modern Leprosies Compared, by T. W. Belcher, M.D., &c.

The therapeutical appendix of Mr. Blake deserves some notice, and we have no hesitation in calling it the most practical part of his publication. Iodine, bromine, mercury, sulphur, and arsenic, with their preparations, are clearly discussed; as are also the salts of potash, soda, and ammonia, vegetable tonics, iron and its preparations, zinc and its compounds, oil of cade and creosote. Under each head we find valuable and highly practicable prescriptions, which we cordially commend to the study of our readers. The entire work is a useful one, and a practical treatise on the subject with which it professes to deal.

Dr. Frazer's book, though a little one, is not the less useful on that account. It professes to be therapeutical only, and has neither a peculiar nosology nor a full account of diseases. We have already referred to some of his remarks, and we now beg to direct the readers attention to the chapters on mercurial and arsenical preparations; to Chapter VI., on Cod Liver Oil; Chapter XII., on Baths and Mineral Waters; and especially to the "Formulary." Here will be found prescriptions for most of the preparations of any note in the treatment of skin diseases. It must be regretted that the symbolism of the *British Pharmacopœia* has not been used, instead of the symbols of former codes now abolished by law. To practitioners of standing this is merely a literary inconvenience, but to students it must to some extent prove a stumbling-block, and the sooner it be removed the better. In the next edition, which will no doubt soon be called for, we hope our suggestion will be adopted. The plan of the book is to discuss, in chapters devoted to each class, the uses and modes of application of the principal remedies in vogue for the treatment of skin diseases, and in doing so the author states his views as to the pathology and general treatment of the affections for which the remedies are recommended. As a teacher of, and a well-known writer on, *Materia Medica* this was not an unnatural course for him to adopt—and no doubt it has many advantages, while the very excellent index obviates any disadvantages that might arise from it. The work is pre-eminently practical in its character, and shows its author to be a sound and accomplished physician. Even the most experienced will find in it suggestions useful in every-day practice, and we strongly recommend it to our readers.

Handbuch der Lehre von den Knochenbrüchen. Von Dr. E. GURLT, Professor der Chirurgie an der Königlichen Universität zu Berlin. Zweiter Theil 1. Lieferung mit XXXI. in den Text eingedruckten Holz-schnitten, sämmtlich nach original zeichnungen des Verfassers. Hamm: C. Müller. 1864. pp. 368.

Treatise on Fractures. By Dr. E. GURLT, Professor of Surgery in the Royal University of Berlin. 2nd part; 1st. Fasciculus. With thirty-one Woodcuts, for the most part from original drawings by the Author. C. Müller, Publisher. Hamm: 1864. 368 pages.

IN a former number of this Journal—that for August, 1862—we had occasion to notice the first part of Dr. Gurlt's *Treatise on Fractures*. We then spoke of the work as one which, when completed, would form one of those voluminous compilations which give evidence of the extraordinary toil, labour, and care, in accumulating all that is known upon any subject—for which the Germans are so justly celebrated in all departments of literature. The portion of the work now before us fully justifies such a supposition. In this goodly-sized volume of 368 pages, the author treats of—1st. Fractures of the spinal column; 2nd. Fractures of the ribs and cartilages of the ribs; 3rd. Fractures and diastases of the sternum; and, 4th. Fractures of the hyoid bone, and the cartilages of the larynx and trachea.

The same care and profound research characterize this portion of Dr. Gurlt's treatise as formed so striking a feature in the first part, or that in which the author dealt with the subject of fractures in general. It would not be possible, within the narrow limits of a review, to do justice to a work so thoroughly exhaustive as Dr. Gurlt's. We must content ourselves by enabling our readers to judge of the scope and character of the book, by attempting to lay before them the manner in which the author treats of some one subject.

In that portion of the volume devoted to the consideration of fractures of the spine, Dr. Gurlt has tabulated no fewer than 270 cases, giving a brief but complete abstract of the report of each case, as published by the surgeon under whose care it had occurred. In speaking of the treatment of fracture of the spine, the author enters at large into the discussion of the practical question as to the advantage of applying the trephine, and raising or removing the

broken or depressed portions of bone in such cases. Our readers will remember that this operative interference in fractures of the spine has found some warm advocates among practical surgeons—while others, of equal reputation, have set their faces against such treatment. Thus Malgaigne calls this operation “a desperate and a blind one.” “It is not correct,” he says, “to call it our only scientific resource. In every fracture with displacement the most scientific and rational plan is first to attempt reduction by the ordinary methods; and to this rule fractures of the vertebræ do not constitute an exception.”

We know, however, that efforts at reduction, in cases of fractured spine, are by no means free from danger. Boyer has recorded a case in which sudden death was thus caused. Mr. South says, and we very much incline to agree with him, “that the attempt to set a fracture through the body, of a vertebra—accompanied, as it almost invariably is, with displacement, or most commonly with fracture of the vertebral arch, or articular processes—is, as Chelius observes, most highly dangerous, and ought never to be attempted.” Sir Astley Cooper speaks favourably of the use of the trephine in cases of fractured spine:—“The proposal,” he says, “is laudable, and the operation is not severe, nor does it increase the danger of the patient; time and experiment only can determine its value. If we could save one life in a hundred by it, we should deserve well of mankind; and if any good does ultimately result from it, Henry Cline has the merit of proposing it.” As regards Cline, Sir Astley is mistaken; the proposition had been made long before by other surgeons. Brown-Séquard has, on physiological grounds, and basing his arguments, in some degree, on experimentation on animals, very strongly advocated the performance of this operation. His arguments appear to us unanswerable, and we think that a fair consideration of the recorded cases, in which the operation has been performed, justifies us in agreeing with this distinguished physiologist—“that it is high time for surgeons to put aside their fear of compromising themselves, and rather expose their reputation, than allow a man to die whom they have a chance to cure.”

As regards the experience resulting from recorded instances of this operation, Dr. Gurlt has collected twenty-one cases where it was performed, and of these four recovered:—One, operated on by Alban G. Smith, and reported in the *North American Medical and Surgical Journal*, 1829; a second operated on by Edwards, Caerphilly, South Wales, and mentioned in the *British and Foreign*

Medical Review, 1838, p. 162; a third operated on by John B. Walker of Boston, 1838; and a fourth operated on by G. C. Blackman, reported in Blackman's edition of *Velpéau's Surgery*. If to these cases there are added that of Louis, published in the *Archives Général de Médecine*, 1836, p. 397—and that of Blair, spoken of by Sir G. Ballingal in the fourth edition of his *Outlines of Military Surgery*, 1852, p. 298—it must be admitted that an amount of success has attended the operation which should encourage others to have recourse to it in cases which appear suitable.

The nature of Dr. Gurli's work precludes the possibility of giving our readers a full analysis. The foregoing, however, is enough to show how searchingly each subject noticed is looked into—almost every recorded case being given in abstract or tabulated.

As to the general scope and mode of execution of the work, we have already spoken in high terms in a former number of this *Journal*, and the present instalment of the work assuredly does not fall short of its predecessor.

NEW EDITIONS.

1. *Lectures on the Diseases of Women*. By CHARLES WEST, M.D., &c. Third Edition. London: Churchill. 1864. 8vo, pp. 687.
2. *The Science and Art of Surgery; being a Treatise on Surgical Injuries, Diseases, and Operations*. By J. C. ERICHSEN. Fourth Edition, Enlarged and Carefully Revised. Illustrated by 517 Engravings on Wood. London: Walton and Maberly. 1864. 8vo, pp. 1280.
3. *A System of Surgery*. By JAMES MILLER, F.R.S.E., &c. Edinburgh: A. and C. Black. 1864. 8vo, pp. 1387.
4. *Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England, by James Paget, F.R.S., &c.* Revised and Edited by WILLIAM TURNER, M.B., &c. London: Longmans. 1863. 8vo, pp. 848.

5. *The Pathology and Treatment of Venereal Diseases, including the Results of Recent Investigations upon the Subject.* By F. J. BUMSTEAD, M.D., &c. A New and Revised Edition, with Illustrations. Philadelphia : Blanchard and Lea. 1864. 8vo, pp. 640.
6. *The Science and Practice of Medicine.* By WM. AITKEN, M.D., &c. In two vols. Second Edition ; Revised and Re-written. London: Griffin and Co. 1863. 8vo, pp. 727 and 1095.
7. *Urine, Urinary Deposits, and Calculi ; and on the Treatment of Urinary Diseases.* With numerous Illustrations and Tables for the Clinical examination of Urine. By LIONEL S. BEALE, M.B., &c. Second Edition. London: Churchill. 1864. Post 8vo, pp. 439.
8. *The Nature and Treatment of Gout and Rheumatic Gout.* By A. B. GARROD, M.D., &c. Second Edition ; Enlarged and Carefully Revised. London: Walton and Maberly. 1863. Post 8vo, pp. 618.
9. *Elements of Physics, or Natural Philosophy.* Written for General Use, in Plain or Non-technical Language. By NEIL ARNOTT, M.D., &c. Sixth and Completed Edition. Part I. London: Longmans. 1864. 8vo, pp. 400.
10. *Handbook of Physiology.* By WILLIAM S. KIRKES, M.D., &c. With Illustrations on Steel and Wood. Fifth Edition ; carefully Revised and Enlarged. London: Walton and Maberly. 1863. Post 8vo, pp. 774.

WE have before us a number of new editions of standard works. The earlier editions of most of them have been very fully reviewed in our pages, rendering it unnecessary that we should again review them at any length ; and besides, the very fact that repeated editions have been called for is stronger testimony to their merits than any that we could offer. We purpose, therefore, to call the attention of our readers briefly to the fact that new editions have appeared, and to make a few extracts, such as may be important either as expressing changes of opinion on the part of the authors, or as containing an account of new researches ; or interesting, by showing the opinions held by the writers on mooted questions, and their modes of thought and expression.

1. *West on the Diseases of Women.*—This is the third edition of a work that has since its first publication been most justly esteemed a standard book. In his preface the author states that by the adoption of a fuller page he has been able to increase the matter without adding to the size of the book. The chief additions will, he says, be found under the heads of Uterine Hematocele and Ovarian Disease; but he has carefully revised the whole work, and added to it wherever larger experience has increased his knowledge.

The most important feature in this edition is the decided change in its teachings in reference to Ovariectomy. In the previous editions Dr. West entered into a lengthened argument on the merits and demerits of ovariectomy, and adduced a series of reasons for rejecting the operation, founded on the high mortality which experience and dexterity had failed to lessen; the special hazard attendant on those cases where yet the operation was specially indicated; and the utter uncertainty, even in the most favourable cases, as to the probable result. With the love for truth and the calmness of judgment so characteristic of his mind, so evident in his writings, and so attractive and influential with his readers, Dr. West now states that further experience has led him to modify his opinion, and with a true but rare appreciation of that love of consistency which has been truly called the hobgoblin of weak minds, he gives full utterance to his more matured thoughts, as will be seen by the following extracts:—

“It is between six and seven years ago since I expressed these opinions. I have thought it right to reproduce them now, word for word, and to repeat the grounds on which they rested. I have done so because these opinions are still, in the main, those of the highest authorities in France and Germany, and it is only in this country and in America that any important additional experience has been attained concerning the operation and its results.

“Even in England, most of the former opponents of ovariectomy retain the unfavourable opinion which they had already expressed, but I am not aware that anything whatever has been done, or even attempted by them to devise other and less hazardous proceedings for the cure of ovarian disease, or even for retarding its progress; and iodine injections, which seemed to promise so much, have been allowed to fall into disuse, almost without an attempt to ascertain their real value. Ovarian disease, then, remains, as far as curative measures are concerned, just where it was seven years ago; a deeper conviction of the utter fruitlessness alike

of internal remedies, and of outward applications being all that the experience of these seven years has taught us.

“It becomes, then, of the more importance to inquire whether this gloomy picture admits of no alleviation, whether the hazardous operation of ovariectomy has lost none of its dangers, whether its attempt is attended by the same uncertainty as before, and whether recoveries from it are still limited to cases where its necessity was the least urgent?

“I am bound to admit that to all of these questions the reply must be much more favourable than it was seven years ago; that the persevering efforts of the advocates of the operation have led to a greater accuracy of diagnosis; to a more careful selection of cases; to a removal of some of the dangers of the operation; to the discovery of the comparative safety of some proceedings, such as the return of the pedicle with the ligature around it into the abdomen, from which surgeons would have shrunk as nothing less than fatal, and to a more judicious after-treatment; and, consequently, that ovariectomy has increased in certainty, and gained in safety.”

From an examination of the more recently accumulated facts, Dr. West shows that though completed ovariectomy is nearly as fatal as before; and that life is prolonged but little longer in fatal cases than it was before; and that the causes of death are much the same as they were, though there has been a reduction in the risk of mere hemorrhage; yet a great advance has been made in the certainty of diagnosis, as seen by the far fewer instances where the operation has been commenced and abandoned from adhesions, or some other cause interfering with its completion. He shows further that no age furnishes a positive contra-indication to its performance, and that the assumption that the only cases which furnish results sufficiently encouraging to justify the operation are cases of simple cysts, which usually increase the least rapidly, exercise the least injurious influence on the constitution, and are the most amenable to other modes of treatment, an assumption on which a chief objection to the operation has been founded, is devoid of foundation.

“The stigma of uncertainty, then, which formerly rested on the operation, may be regarded as now almost or altogether done away with; and the experienced surgeon may begin its performance without more uncertainty as to his ability to complete it than accompanies other of the capital operations of surgery.

“Neither the patient's age, then, nor the nature of the tumour, can be regarded as of itself prohibiting the operation; and we are clearly advancing into the region of certainty, when, instead of arbitrary laws

deduced from the results of a limited number of figures, we become able to lay down indications for doing or abstaining from the operation founded on the general principles of medicine and surgery.

"I think, then, that we are now bound to admit ovariectomy as one of the legitimate operations of surgery; as holding out a prospect, and a daily brightening prospect, of escape from a painful and inevitable death, which at last indeed becomes welcome, only because the road that leads to it conducts the patient through such utter misery.

"Perhaps we may sum up the indications and contra-indications for the operation somewhat thus:—

"1st, It is *not* to be performed in any case of single cyst which is not increasing, or is increasing but slowly, while it has not as yet interfered with the patient's general health. In other words, life is not to be jeopardized for a mere discomfort.

"2nd, It is *not* as a general rule to be performed until after the cyst has been tapped once. The reasons for this precaution are three-fold. In some rare cases the fluid does not re-collect; the amount of constitutional disturbance which follows tapping would be some index to the amount that might be apprehended from the more serious operation of extirpating the tumour; and lastly, when the cyst is emptied, and during the process of its refilling, its relations, and the presence or absence of adhesions, especially to parts within the pelvis, can be more readily ascertained.

"I doubt whether, in the case of simple cysts, ovariectomy ought not to be further limited to cases in which trial has been made of iodine injections sufficient to ascertain them to be inefficacious, or to prove them to be unsafe.

"3rd, It is *not* to be performed in any case in which a tumour is felt in the pelvis, retaining the same situation but little changed after tapping, and from which, by means of the sound, the uterus cannot be distinctly isolated.

"4th, It is further contra-indicated by the presence of albumen in the urine, or at any rate by the persistence of any trace of it after tapping, and also by the early occurrence of swelling of the legs, and by the presence of any considerable quantity of ascitic fluid in the abdominal cavity.

"5th, And lastly, its success is rendered extremely doubtful by the previous occurrence of cyst inflammation, and general peritonitis as evidenced by attacks of sickness, shivering, fever, and abdominal pain, and by the presence of pus in the fluid evacuated by puncture. The fact of a patient having had occasional attacks of abdominal pain, of short duration, unattended by fever, or by abiding tenderness, does not contra-indicate the operation, since such attacks occur independently of inflammation.

"On the other hand it is not contra-indicated,

“1st, By the patient’s youth or age, nor by the fact of her having previously undergone several tappings, nor by the irregularity or suppression of the menses, since complete menstrual suppression does not prove both ovaries to be implicated.

“2nd, It is justifiable and to be recommended in all cases of ovarian tumour, whatever be its structure, and whether its existence be of long or short duration, and whether tapping has or has not been frequently resorted to, where the disease is steadily and progressively increasing, and when the patient’s health is beginning to suffer from this increase, but as far as can be ascertained from no other cause independent of the local mischief.

“Something, indeed, I think much of our conduct must be governed by the state of the patient’s own mind and wishes; by the calmness with which she can regard the possible failure of the operation, and the sudden entering on the ‘unknown land;’ by the strength of the ties which bind her to the world, and make her desirous to continue in it, and by the spirit of hopefulness that may enable her to look beyond the risk of the few days, to the perfect health in future years which will be the reward of a successful venture. Dread of the issue is a bad state of mind in which to undergo an operation of this magnitude; I am not sure but that indifference is even worse: I am quite certain that moral considerations must be weighed as carefully as those furnished by the character of the tumour, or the history of its growth.

“I cannot expect that the reasons which have seemed to me conclusive in favour of ovariectomy should appear to others equally cogent; though I quite expect that the next seven years will, as the past have done, lessen the objections to its performance, and increase the evidence in its favour. So long, however, as there continues to be room for difference of opinion on the subject, the caution is not superfluous which I ventured to suggest seven years ago with reference to the grievous injury that is done both to the advance of medical knowledge, and to the standing of our profession with the public by the practice of treating some of these questions as though they were questions of moral right or wrong. It would seem, from what has sometimes been said on the subject, almost as if ovariectomy could not be defended save from some sinister end, nor its expediency be doubted except from a moral obliquity rendered excusable only by hopeless dulness. Belief in each other’s integrity of purpose seems to me essential to our eliciting truth by discussion; and I see no reason why I am to suspect another of being less mindful of our common duty to humanity because he tries to relieve suffering or to prolong life by some means in which I have not the same confidence. The *odium theologicum* has at least age and respectability in its favour; I fear the immortal quarrel between Dr. Slop and Susannah has gone far to render the *odium obstetricantium* simply ridiculous.”

We now leave Dr. West's book. The whole work bears evidence of having been carefully revised, and it is well worthy of the fame it has already obtained.

The next works on our list are systematic treatises on surgery. Both Erichsen and Miller touch on this same question of ovariectomy; and though they have both advocated it before, it may not be uninteresting to place extracts from their teachings beside those we have taken from Dr. West:—

“Much discrepancy of opinion has existed amongst practitioners as to the propriety of performing this operation, which has been chiefly condemned on two grounds; 1st, that, as the disease for which it has been proposed is not necessarily fatal, or, at all events, not incompatible with long life, it is not proper to subject the patient to a hazardous procedure for its removal; and 2nd, that the mortality from the operation is so high as not to justify a surgeon in performing it.

“With regard to the first objection, it may be stated that ovarian disease is attended by very great discomfort and inconvenience in all cases; that it prevents a woman from discharging the active duties of life, and, amongst the poorer classes, from obtaining a livelihood; and that, so far from being a comparatively innocuous affection, it wastes and enfeebles the patient, interfering seriously with nutrition, and with the actions of the abdominal or pelvic organs, and is not generally compatible with prolonged existence. Dr. Lee states that about 80 per cent. of the cases that are not operated upon, die within one year and three quarters after the appearance of the disease. When it grows rapidly, or so soon as it attains such a size as to require tapping, death takes place much more quickly. Mr. Safford Lee states that of 46 patients with ovarian disease, who were tapped, 37 died, and only 9 recovered; and that of the 37 who died, more than one-half did so in four months from the first tapping, and 27 out of the 37 within a twelvemonth, and of these 18 were tapped once only. In those who survive, repeated tapings are required at constantly decreasing intervals.

“The second objection can have little weight with any practical surgeon. The mortality after ovariectomy is not so high as that after many operations which no surgeon would hesitate for a moment in performing. It is true that in some of these cases, as in the ligature of the larger arteries for aneurism, speedy death would be the penalty of non-interference; whereas, in ovarian disease, a miserable existence may be protracted for some months after the tumour has attained so great a bulk as to render surgical aid necessary. But in other surgical diseases in which operations of the gravest character are performed without hesitation, as in the removal of the upper jaw for tumour, or in amputation

at the hip-joint for tumours of the femur, the same objections would hold good. The diseases for which these great and dangerous operations are performed are not incompatible with some months or even years of painful existence; yet the surgeon does not hesitate to give the patient the chance of a doubtful recovery, in order to extricate him from the miseries of prolonged suffering. It is not necessary, in order to justify an operation even of a dangerous character, that the patient be in *immediate* peril of death. It is sufficient that the death from the disease which it is proposed to remove should ultimately be certain, though it may be delayed by months or years of previous suffering. From this point of view ovariectomy appears to me to be a perfectly proper and justifiable operation, and it presents the advantage of the cure, if practised, being complete and permanent. In it there is no mean; the death is speedy, or the cure complete.”—*Erichsen's Surgery*, pp. 1234–5.

“The statistics of ovarian operation give a mortality of about one death in every three cases, though some speak of a fatal result as occurring only in the proportion of one in seven. Its dangers, then, are very considerable. On the other hand, hopes of relief from ordinary treatment of the tumour cannot be sanguine. Most patients are carried off by the disease in less than four years. Very few have the good fortune to be cured, and only a small number live beyond the four years. But it will always be a difficult and anxious matter for the surgeon to propose that a woman suffering, it may be, very little from the disease, should subject herself to the risk of almost immediate death, in order to obtain the chance of getting rid of that which might possibly permit several years of comfortable existence. The question of the performance of this operation, therefore, should not be decided so much upon general grounds, or on the statements of other operators, as by a careful consideration of all the circumstances in each particular case—favouring or forbidding its employment. The results as given by statistics are certainly not to be taken into account, as they seem to consist of the most heterogeneous materials; containing, for example, cases where small non-adherent cysts in young girls have been satisfactorily removed—cases where the bowels and the tumour were so inextricably incorporated, that large masses of the tumour had to be left behind—cases where the removal was practised carefully and skilfully—and cases where the iliac veins were torn, the bowel divided, and towels, placed in the cavity to check the bleeding, were left there, and the wound stitched up.”—*Miller's Surgery*, p. 1002.

2. *Erichsen's Treatise on the Science and Art of Surgery*, from the fourth edition of which we have made one of the foregoing extracts, first appeared about eleven years ago, to have now reached a fourth

edition, besides having been translated into German and French, and passed through two editions in America, is no mean evidence of its value. The present edition is somewhat enlarged, and has 517 illustrations, being sixty-seven more than were in the preceding one. It retains its character for the completeness and accuracy of its details, and it may be referred to by the surgeon with the certainty of finding for his guidance in all emergencies practical precepts, full, and easy of comprehension. It has not, however, been brought fully up to the present day, and there are many subjects that we expected to have found fully discussed which have been only briefly alluded to, or are not mentioned at all.

3. *Miller's System of Surgery* is virtually also a fourth edition, though appearing under another title. The previous editions appeared in two volumes, entitled respectively *The Principles and Practice of Surgery*, and have also been well received abroad. These are now combined, and form a complete system. The author originally intended his volumes as text-books for his lectures, and we cannot allude to them here without a passing tribute of respect for his memory. A most eloquent and graceful lecturer, a warm and genial friend, the news of his death, which has arrived as we write, fills us with grief. Cut off at an early age, when he appeared to have a brilliant career before him, he has left us a volume which will ever form an attractive and sound exposition of the doctrines of surgery. Other works may be more minute in details and dogmatic in their precepts, but none can be more sound in their doctrines, or better suited to give students a true insight into the science of surgery. We extract the following passages from these works, with a view to showing the opinions of the authors on subjects that have lately attracted attention, and as illustrating their several styles:—

“*Opening the Windpipe in Croup and Diphtheria.*—The question as to whether the windpipe should be opened in cases of croup has been much discussed. Were croup merely a disease of the larynx, and did death in it result from simple laryngeal obstruction, it would doubtless be proper to perform this operation. But in croup there are two distinct sources of danger; 1, that arising from asphyxia dependent on laryngeal inflammation, obstruction by plastic deposits, and spasms; and 2, that which is due to the extension of inflammatory action below the larynx into the bronchi and lungs. By tracheotomy we can doubtless remove so much of the danger as arises from the laryngeal obstruction, but we cannot

remove that which is dependent on the often concomitant broncho-pneumonia. In this respect the propriety of performing tracheotomy in the croup of children differs remarkably from the expediency of having recourse to the same operation in the acute laryngitis of adults, in which the lungs are rarely implicated to a serious extent. In fact, the question as to the performance of tracheotomy in the croup of children must be answered by the amount of laryngeal asphyxia and the extent of pulmonary implication. If the child be in danger of death from uncomplicated laryngeal inflammation, obstruction, and spasm, timely tracheotomy will undoubtedly rescue it from this immediate danger, and will be a proper operation; but, if extensive broncho-pulmonary inflammation already exist, it will be worse than useless, and should on no account be practised. A serious objection to the performance of tracheotomy in the croup of young children is, that it is by no means an easy operation, or one devoid of immediate danger. If chloroform be not given, the struggles and writhings of the child will materially embarrass the surgeon in his attempts at opening the windpipe. But even if chloroform be administered, which should always be done when practicable, and this source of difficulty removed, there is, unless care be taken, no little danger of hemorrhage; and I have heard of several cases in which this has occurred to a fatal extent. Although, therefore, as a general rule, I fully agree with Porter in reprobating this in ordinary cases of croup, yet cases are doubtless occasionally met with in which the disease is so clearly limited to the larynx—the respiration being free throughout the lungs and bronchi—that the surgeon may feel himself justified in endeavouring to save the little patient, struggling against overpowering asphyxia, by opening the windpipe. In several such cases, to which I have been called by other practitioners, and which were apparently most favourable to the operation, I have considered myself justified in doing this, though rarely with ultimate success. I believe that the general experience of British surgeons is unfavourable to it. On the other hand the French surgeons, and particularly Trousseau, are strenuous advocates for the performance of tracheotomy in croup, and the operation is accordingly far more extensively practised in France than in this country. But even in Paris it is not a very successful procedure; thus it appears that, at the Hospital for Sick Children in that city, the operation was performed in 215 cases in five years, and that of these only 47 were cured. Unless we assume that the disease, as occurring in Paris, is different from the form of croup we meet with here, it may fairly be doubted whether an operation which is in itself dangerous could be necessary in many of these instances, and whether a large proportion of the children might not have recovered under ordinary medical treatment, and without having recourse to operation.

“In *Diphtheria*, as in croup, there are several sources of danger. There is not only peril from the obstruction of the pharynx and larynx, by

inflammation and the accumulation of exudation-matter, to such an extent as to induce asphyxia, but there is also liability to pulmonary inflammation and congestion, blood-poisoning, and exhaustion of the system. In diphtheria, as in croup, tracheotomy may be performed when the patient is in imminent danger of death from laryngeal obstruction; and by it the fatal event may be warded off so far as it arises from this cause, and time be thus afforded for proper treatment. Even though the relief afforded by tracheotomy be only temporary in the majority of cases, and the patients generally eventually die of the constitutional symptoms, yet it is obviously proper in cases still uncomplicated, and where the danger of death from laryngeal asphyxia is imminent, that the surgeon should rescue the patient from his instant peril, and give him his only chance of prolonging or of preserving life, by opening the windpipe,—the trachea in children, the larynx in adults, being most suitable for operation. It has been very justly observed by Dr. Jenner that, by opening the windpipe in these cases, we save the patient from so terrible a death as that by asphyxia; and even if life be ultimately extinguished by the disease, temporary ease will have been afforded the patient, and death will occur in a less distressing manner; and that, if only one life in a hundred could in this way be saved, we should be justified in having recourse to the operation.

“The prospect of saving life after opening the windpipe in cases of diphtheritic asphyxia will greatly depend upon the age of the patient. Under two or even three years of age recovery is extremely rare; as age advances, the chance of life proportionately increases, and in adults the prospect of recovery is considerable. In many cases the patient will get great temporary benefit from the operation, and will appear to be doing well for several days, perhaps for eight, ten, or fourteen; and then, to the great disappointment of the surgeon, he will die, not from the effects of the operation, but from blood-poisoning or from the extension of the disease to the bronchi and lungs.”—*Erichsen's Surgery*, pp. 924–5.

“In the second stage, the symptoms are sufficiently urgent to call for any aid which our art can afford. Tracheotomy will give a more direct and free entrance for air passing towards the lungs, than through the affected larynx; and the larynx will be placed in a state of comparative rest, favourable to recovery. But the same good result does not follow as in the case of acute *œdema glottidis*. In croup, unfortunately, the disease is not limited to the larynx, but has often passed the site of tracheal wound, and is already established in the bronchial tubes; the wound is made—not in a comparatively sound part, to afford rest to the superior portion of the canal—but in the midst of the disease, affording rest to but a part, and perhaps a minor part, of the disorder's seat, and possibly inducing, by its additional stimulus, an aggravation of the whole. Air

is let in towards the lungs, but with only a doubtful chance of reaching them; for by this time the bronchial tubes may be clogged with viscid mucus, while certainly the bronchial membrane is itself swollen and infiltrated, the trachea may be more or less obstructed by false membrane, and perhaps, indeed, pseudo-membranous formation may have extended throughout almost the whole bronchial ramifications. When the third stage of croup has set in, tracheotomy must prove only exceptionally a means of restoring the patient. In this disease, therefore, the practical inference from such considerations will be, that in the first stage our principal confidence must be placed in medical treatment. When, however, the second stage has set in, in spite of medical efforts to check the progress of the disease, the question arises, Shall we perform, or shall we not resort to tracheotomy? This question has been very differently answered by the experience of different surgeons. By some it is considered as a desperate attempt to save life, and therefore not justifiably undertaken so long as medical treatment holds out a shadow of a hope of checking the disease. By others, a great success in the employment of tracheotomy in cases of supposed croup has led them to resort to its performance in every case, whenever the respiration becomes seriously interfered with, whatever the stage of the disease—so long, in fact, as the little patient is struggling ineffectually for breath and not actually moribund. To the latter class of practitioners we incline to belong, and hold that the surgeon should unhesitatingly undertake the operation whenever the dyspnœa is urgent, sustained, and accompanied by drawing in of the lower part of the chest on inspiration, with recurring paroxysmal attacks, a rapid pulse, becoming feeble, a congested or a pallid and leaden aspect, with turgid veins and copious perspiration. If the operation is not performed under such circumstances, death may ensue during the next paroxysm; or if it be delayed longer, the delay is sure to induce œdema of the lungs, to increase the likelihood, therefore, of congestion or actual stasis of the pulmonary circulation, to exhaust the heart by its inability to force onwards the blood accumulating on the right side, and lastly, still further to diminish the powers of life by the persisting dyspnœa, and the continuance of depressing treatment, so that the little chance becomes no chance at all when tracheotomy is performed at a later period. No doubt the tube and wound in the trachea may be causes of bronchitis; but certainly impending asphyxia, œdema of the lung, and its consequences, and exhaustion of the patient, are far more likely to act injuriously in determining not only bronchitis, but also collapse of the lung, if permitted to continue till a fatal issue is obviously threatened. No doubt, also, the false membrane may extend beyond the tracheal opening; that, however, does not preclude its exspitation, after tracheotomy, any more than before; nay, it saves the patient from the risk of the shreds or casts becoming impacted in the glottis, and thus

inducing instantaneous death. But experience proves furthermore that where it does not save the little patient from death, it alleviates his sufferings; affording him respite from struggling efforts, at a small expense of temporary additional pain, while it stills the hoarse cry and the barking cough which have, during the weary watch, been so sore a trial to his anxious friends. In undertaking the operation, the surgeon should satisfy himself as to the condition of the chest; seeing that the want of expansion acts equally on both sides, that the respiratory murmur—not the hoarse and shrill rhoncus communicated from the larynx and consonating through the bronchi of the lung, but of the air entering both lungs—can be heard, and that there is no dulness on percussion at either base. His duty then is plain. He should perform tracheotomy as speedily as possible. The operation may not save his patient, or the case may not be one of true croup, but certainly nothing else will help the sufferer, whether the case be croup or not.”—*Miller's Surgery*, pp. 872, 3, 4.

In cases of impermeable stricture of the œsophagus it has been proposed by Sédillot to open the stomach by an incision through the abdominal walls, and to introduce food directly into the organ. The operation has been performed by Sédillot, Fenger, of Copenhagen; Cooper, Forster, and others. Sédillot has given it the name of *gastrostomy*. Our authors thus allude to it:—

“The value of this operation has yet to be determined by experience. In no case in which it has hitherto been done has it succeeded in adding much, if anything, to the prolongation of life. In reasoning upon it, two objections present themselves. First, there is the great and immediate danger of destroying life outright by the induction of peritonitis; though it is by no means impossible that the tendency to abdominal inflammation may be lessened by the previous starvation of the patient. But supposing this risk to be overcome, what is gained by the artificial opening? It is true that through it the patient might be nourished; but as every idiopathic stricture of the œsophagus is either from the first of a cancerous character, or eventually assumes a malignant action, of what advantage is it to endeavour to prolong a precarious existence, which must in a few weeks or months be cut short by the unchecked progress of a malignant disease? Would not the immediate danger of the operation much more than counteract all good to be eventually derived from it?

“There is, however, one class of œsophageal strictures which are of the most obstinate character, and rapidly fatal by simple occlusion of the tube, without any tendency to malignancy. These are the constrictions that result from the swallowing of corrosive liquids, whether acid or alkaline. In such cases as these, in which speedy death from starvation is inevitable, I think that recourse might with propriety be had to the operation of *gastrostomy*.”—*Erichsen's Surgery*, p. 892.

“In the case of insuperable obstruction of the pharynx, œsophagus, or cardia, it has been proposed to open the stomach by direct incision; attaching the edges of the opening in the stomach to the integumental wound; and thus constituting a permanent aperture, for the introduction of food, similar to what occurred accidentally in Alexis St. Martin. The operation is feasible in theory, and simple in performance. But its extension to cases of hopeless malignant disease seems scarcely expedient.”—*Miller's Surgery*, p. 1004.

4. *Paget's Lectures on Surgical Pathology*.—We need only say of this work that the author tells us, in the Preface, that when the time came for preparing a second edition of his lectures he was anxious that they should be revised with all the light of the knowledge of Pathology acquired since their first publication; and, though he had collected some materials for this purpose, yet he had not sufficient time for either studying or thinking carefully about the many facts, and probabilities, and guesses at truth which had been added to Pathology; and therefore committed the work of revision to his friend and former pupil, Mr. Turner, whom he knew to be not only very conversant with the progress of medical science, but able to test other's observations by his own; and Mr. Paget says he has so worked with him as to be equally with him responsible. The lectures are now published in a single volume, and have not only been carefully revised but have had much matter added to them.

5. *Bumstead on Venereal Diseases*.—The very favourable opinion we expressed of this book in our number for August, 1862, is confirmed by a new edition having been called for in the short space of two years. The author has spared no labour to make this edition worthy of the reputation acquired by the last, and we believe that no improvement or suggestion worthy of notice recorded since the last edition was published, has been left unnoticed. To one point we would draw his attention. In speaking of Mr. Holt's method of treating stricture, he copies from our pages Dr. P. C. Smyly's improvement in the instrument, but states that Mr. Holt directs that the catheter should be used daily after the stricture has been burst. Mr. Holt's recommendation is that it should be used every second day only; and we are convinced that the frequent introduction of a catheter is not only unnecessary, but a frequent cause of failure in this mode of treatment.

6. *Aitken's Practice of Medicine*.—This is a second edition, greatly enlarged, of a well known work, and is very correctly

described in the title page as re-written. Founded on an article written for a cyclopedia (not professional) it was soon republished in a separate form, as a handbook for students, and now, after a short period, it appears as a large two-volume book, containing upwards of 1,800 8vo pages. Dr. Aitken is professor of pathology in the Army Medical School, and was one of the pathologists attached to our army in the Crimean campaign, and as a pathologist, has deservedly a very high character. It is evident, however, from the work before us, that his attention has been directed more to pathology and the literature of medicine than to clinical research and the actual observation of disease.

As a *resumé* of the most important researches and writings, the book is one of very considerable value, affording a good digest of nearly all the recent books and essays of authority that have appeared down to the day of its publication. As a guide to the study of symptoms, however, or to the treatment of disease, it is not so trustworthy, many of the descriptions being curt and inaccurate, some important diseases not described at all, and the treatment recommended very often more of the old routine of leeches, blisters, antimony, and mercury than is judicious at the present day. In all that relates, however, to pathology, the book is most excellent; and, after all, this is the most important part of a class book, for a knowledge of the symptoms of disease and of the mode of treatment is not to be learned from books or lectures, but at the bedside only.

The same credit that we have awarded to Dr. West for his candid and unequivocal expression of a change of opinion is due to Dr. Aitken, for the manner in which he has avowed his altered views as to the nature of typhus and typhoid fevers. In the former edition he taught that these fevers were identical in their nature. This belief he says he no longer entertains; and in a very excellent and well written chapter he states the facts that have proved to him that there are many remarkable differences of a specific kind between typhus and typhoid fever, and we must add Dr. Aitken's name to the now long list of eminent pathologists who have become converts to this opinion.

Dr. Aitken devotes very considerable space in this edition to the exposition of the use of the thermometer, as an aid to diagnosis. This is, we believe, the first attempt that has been made to bring this subject forward in a systematic treatise, and to give thermometrical observations the place they deserve, as aiding the study

of disease. To Wunderlich, of Leipsic, we are indebted for his exposition and persevering advocacy of the usefulness of daily repeated observations and records of the temperature of fever patients, and the constant employment of the thermometer as a means of diagnosis at the bedside. On this subject he has written much, from an extensive experience, embracing at least half a million exact thermometrical observations, following the continuous progress of individual diseases, the results of which he has compared in more than 5,000 patients; and Dr. Aitken has embodied in his work the conclusions to which Wunderlich has arrived.

Variations of bodily temperature, through external influences, are found to indicate disturbed health. Influences which exert no effect on a healthy man, act most strikingly in certain morbid states of the body, so that the appreciation of such changes in temperature will often alone indicate latent but important disease. A mere indisposition, but attended with a considerable rise of temperature, ought never to be made light of—marking, as it usually does, the beginning of important disease. As a means of establishing a diagnosis thermometrical observations seem to be most valuable:—

“For example, the characteristic variations of the temperature, as exhibited in a typical case of enteric, intestinal, or typhoid fever, are of such a kind that they are not found in any other disease. Intestinal catarrh, severe forms of pneumonia, intermitting fever with apparent continuance, meningitis and miliary granulations of the pia mater, acute tuberculosis, Bright’s disease, or pyemia, may each simulate typhus, and may exhibit some of its most characteristic symptoms; but observations with the thermometer, as to the temperature of the patient from day to day, will, at once or after a few days, establish the distinction with certainty. In the course of many diseases also, whose diagnosis has been accurately established, additional developments of disease, degeneration, or other complication, may ensue, which at first and for a time are completely hidden, if the interruption to the normal course of the disease is not marked out by a sudden rise of the temperature—the earliest and the best indication of these untoward events.”

The thermometer is equally useful as a means of prognosis; and Dr. Aitken believes that it must ere long be universally adopted in practice, and in his descriptions of many diseases gives illustrations of its use. He concludes his general description as follows:—

“The student or physician who continues to disregard the aid of thermometry in the diagnosis of febrile diseases, may be compared to the

blind man guiding himself. By means of great practice and intelligence the blind man will often proceed rightly, but the advantages of being able to see clearly are proverbially above all price. The necessity of the use of the instrument, also, will soon become known to the general public, and patients will become dissatisfied if all known means of investigation are not employed in investigating the nature of their malady. For many years the German student and physician has been familiar with its use; but with the exception of Dr. Parkes, and the pupils he taught when Clinical Professor in University College Hospital, the usefulness of the thermometer, in recognizing febrile diseases, does not seem to have been hitherto sufficiently appreciated in the medical schools of this country."

It is much to be regretted that the practical parts of this work are not equal to the theoretical and scientific portions; but, notwithstanding, it is, in our opinion, a valuable addition to our class-books for students, and a most excellent compendium of all that is being done in pathology and the science of medicine.

7. *Beale on the Urine*.—The author has endeavoured to increase the usefulness of this work by the addition of observations on the treatment of urinary diseases. Experience has taught him (he says in the Preface) that the treatment of many chronic and obstinate diseases of this class is more successfully carried out by attention to the general physiological changes going on in the system, and by the use of *simple* remedies, in suitable doses, persevered in for a considerable time, than by the employment and frequent change of complex formulæ. He believes that the treatment of disease may now be conducted on recognized and intelligible principles; and that the system of ordering a number of different substances should be deprecated, because evidence has proved it to be useless to the patient, whilst it must foster mystery in connexion with our art, and greatly retard the advance of medicine. The reader will not, therefore, find a list of all the drugs that have been advocated as having a special influence on the urinary organs; nor will he meet with complex recipes containing several ingredients the action of which is very imperfectly understood.

New observations and several new figures have been introduced, and a considerable part of the work has been entirely re-written, while new matter, to the extent of nearly 100 pages, has been added.

8. *Garrod on Gout and Rheumatic Gout*.—In our issue for May, 1860, we gave a very full analysis of this work, commending it strongly. We now again advise all our readers to purchase and

study the book, believing, as we do, that it is one of the most valuable and complete that has ever appeared on the subject.

9. *Arnott's Elements of Physics*.—A book that has passed through five large editions in five years needs no commendation from a reviewer. We trust it will soon be completed, and take its place as a class-book with all who contemplate entering the medical profession.

10. *Kirkes' Physiology*.—This book also has passed through five editions in five years, and will, we have no doubt, pass through many more.

1. *The Annals of Military and Naval Surgery, and Tropical Medicine and Hygiene; being an Annual Retrospect Embracing the Experience of the Medical Officers of Her Majesty's Armies and Fleets in all parts of the World*. Vol. I., for the year 1863. London: Churchill. Post 8vo. pp. 376.

2. *The Case of the Medical Officers of the Army Fairly Stated, in a Letter to the Right Hon. Earl de Grey and Ripon, Secretary of State for War*. By a RETIRED DEPUTY INSPECTOR-GENERAL OF HOSPITALS. London: C. Griffin & Co. 1864. 8vo, pp. 17.

OF the works before us the first on our list is the commencement of a new serial, to be devoted entirely to military and naval medicine, and is intended to resemble the retrospects and abstracts of Rankin and Braithwaite. It has been compiled, we understand, by Dr. Alex. Grant, of the Indian Medical Service. We have perused many of the papers, and have no hesitation in expressing our conviction that they are of a character deserving of the highest commendation, and fitted to prove that the medical officers of both branches of Her Majesty's Service are second to none in their attainments, their zeal for the promotion of medical science, and their devotion to the due performance of their duties. We had marked off several passages, meaning to extract them at length, but the space at our command is not sufficient to do them justice; and the letter of the Deputy Inspector has determined us to break through our usual rule of discussing only scientific questions, and to lay before our readers, instead, an exposition of the causes of the

very unsatisfactory state into which the medical department of the army is rapidly falling, and of the reforms necessary to restore it to efficiency.

That the condition of the medical department of the army is, at present, most unsatisfactory—that the profession has lost confidence in it—that professors and teachers are, to say the least, not encouraging good students to enter its ranks, and that there is universal discontent in all the grades of this important branch of the Queen's Service, cannot be questioned. We have only to point to the *Gazette* of the 6th July, in which thirteen acting-assistant surgeons have been admitted, without examination, for Home Service, in proof of these statements, and of the destitution to which the medical service of the army is reduced; and there can be no question that the state of this department, in its Home and Indian branches, is at present exciting very considerably the attention of the profession, the public, and the Legislature. The continual stream of letters and articles appearing in the leading medical journals of England, the discussion of the question very recently in the House of Commons, and the very unjust remarks recently made in a demi-official Government organ, all tend to show that the wave of discontent is gaining strength, and has broken at the door of the Palace of Westminster.

It would be impossible, here, to go into a discussion of *all* the causes of discontent which at present prevail in the medical service of the army; a few of the principal ones will suffice. *And first—the confidence of the medical department in its rulers has been destroyed.* The warrant of 1858, a document the result of long and patient consideration, upon the expediency and justice of which the highest medical authorities in the land were consulted, has been so mutilated, explained away, shorn of its fair proportions, that, practically, its principal and most important clauses are a dead letter. Its 17th article, especially, which touches the social position, privileges, and comforts of the medical officer is either practically ignored or wilfully misinterpreted. Surely it is no unreasonable request that this warrant, which was granted after careful deliberation, should be restored in its integrity.

It has been said that medical officers wish the complete restoration of this warrant simply because they desire executive rank, and wish for military command. There may be a few foolish men in the ranks of the medical service, who may be ambitious of these follies, but we are persuaded they are few, and that

the great majority seek only for fair dealing. They naturally desire that the provisions of the warrant which they have received from their Queen shall be interpreted literally, and carried out honestly.

Another serious cause for discontent is the present almost hopeless prospect of promotion for the assistant surgeon. Let the students who are thinking of entering the army ponder it well ere they take the step. Between fifteen and twenty years must elapse before those who enter the service now can be promoted. This, on even the highest pay of thirteen shillings a-day, is but a poor prospect.

It is surely no great demand, under such circumstances, that the assistant surgeon shall receive his promotion within a limited term, say ten years, whether there be a vacancy or no.

Again, the period of service necessary to entitle a medical officer to his retirement is much too long. It is but a very few who attain now to the higher inspectional ranks; the great majority retire as surgeons-major, at twenty-five years service, on the pay of seventeen shillings a-day; too old to commence any active employment by which they could add anything to their small income; too shattered by the wear and tear of long residence in bad climates to be able to call up even the shadow of the energies of younger days; too wearied with the "rack of this rough world" to commence the battle of life again. A retirement after twenty or twenty-one years is no very unreasonable demand from men who expend their energies in every quarter of the globe, and few of whom ever reach their period of service without damaged, if not broken constitutions.

The discontent in the military medical service has, of late, taken such hold upon the profession that it has been with very great difficulty that candidates could be found to enter the service; and at this moment there are upwards of 200 vacancies in the Indian and Queen's Services. The step, however, which has been taken within the last few weeks to fill up these vacant places has been the heaviest blow ever inflicted upon the rights and liberties of the Army Medical Department. When candidates could not be found to come forward to compete for the vacant appointments, and enter the service in the legitimate channel, it was determined to admit them *without competition* and *without examination*; and an advertisement was issued in the *Times*, signed by the Director-General, offering ten shillings a-day and *home service* to any gentleman, holding the usual qualifications, up to the age of forty years,

who wished for such employment; and in a recent *Gazette* no less than thirteen of these acting assistant-surgeons have been appointed.

Now we have no hesitation in saying that the gentlemen who accept these appointments, as acting assistant-surgeons, are doing an act of great injustice to the regular medical officers of the army. Observe. These gentlemen are to be employed entirely on home service, every assistant surgeon, and many staff surgeons also, are to be banished from home to make room for them. In a short time, if this advertisement be acted upon, scarcely an assistant surgeon of the staff will be left in the three kingdoms; and if the arrangement continues they will have but a poor chance of returning home again. The immediate effect, then, of the employment of these gentlemen, as acting assistant-surgeons, will be the expatriation of the regular assistant surgeons now serving at home, whose hope of spending even a few months on home service will thus be blighted at once.

Again, there can be no question that the medical department of the army is insufficiently paid. What medical practitioner in civil life, we would ask, would consider that he had gained even an average amount of success, who, after struggling for fifteen years, found himself in the possession of £320 a-year.

The truth is, the price of a well qualified medical man has gone up. The article is much more scarce than it used to be, and if the Government want to have good men, who can be trusted, they must pay for them. Lord Hartington, in his recent speech on the subject, acknowledges this, and admits that the necessity of increasing the pay of army medical officers may arise ere long.

There are many other matters of minor importance upon which we could dwell, which are galling and painful to army surgeons. The order for *directing* the branding of soldiers, a matter which, we apprehend, no more requires the presence of a medical officer than the shoeing of a horse requires the presence of a veterinary surgeon; it can be done equally well by the drummer or the farrier. It is galling and humiliating to men who have been taught, in the exercise of their humane calling, never to spill blood, or inflict pain, except for the cure of disease, to be obliged to stand by and *direct* (for this is the wording of the order) the piercing of a culprit's skin with a number of holes, in the form of the letter D. or B. C., and to have the same rubbed over with a solution of *gunpowder*! Why not send our army surgeons, at once, for a course of instruction in tattooing among the Feejee islanders? for we apprehend there is not a man among the ranks of the medical department who would

not feel ashamed to confess that he was *capable* of giving instruction in the execution of this obnoxious duty.

It is a grievous pity that for the want of a few concessions that this service has become so unpopular. We have no doubt, whatever, that if a wiser and more liberal policy were adopted the medical department would be as popular as any other branch of the service. We would gladly see the day when it would be as difficult to obtain an appointment, by competitive examination, in the Army Medical Department, as it is now in the Royal Engineers; when instead of lowering the qualifications, extending the age, and, as a last refuge, admitting rejected candidates as acting assistant-surgeons for *home* service, it would be found necessary to do the very opposite, and to make the examination so searching that none but men of a high order should be admitted. But this day will not arrive till the Government see fit to grant the fair and just requirements of the medical officers.

We have observed, with much pleasure, that the College of Physicians in Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, have taken the matter up, and by a memorial to the Premier have pointed out the condition of the army medical service, and respectfully invited his attention to the subject. We trust this example may be followed by other corporate bodies, for, after all, it is to the profession in general, to the colleges, and to the medical press that the army surgeons must look for assistance in having their case fairly stated, and influentially represented.

We ask our readers to peruse the temperate, calm, and argumentative letter of which we have given the title above, and then wonder, as we do, how it is that a policy, which has tended to lower and degrade an honourable service, and to insult a profession esteemed by men among the highest, can thus be wantonly pursued. Surely such a policy must be suicidal as it is short-sighted. Who can tell, in these days, when we may not be plunged, once more, into war. Are we to have a repetition of the old story; is Scutari to be acted over again?

This letter contains the whole question. After showing the present condition of the service, pointing out the continual opposition, extending over a long series of years, which has been given to its advancement, and quoting the memorable words of Lord Dalhousie, condemning "a system which treats a member of a learned profession, a man of ability, skill, and experience as inferior to a cornet of cavalry; a system, in fine, which thrusts down grey-headed

veterans below beardless boys." The Deputy-Inspector winds up his admirable statement with the remedies which he proposes for the existing evils, which we quote, and in which we fully concur:—

"Let, then, the Warrant of October, 1858, and Clause 17 in particular, be restored in all its integrity; let the Government give a simple assurance that in future it will repress firmly all attempts, covert or open, to explain away by circulars or alterations in the Queen's Regulations its plain, honest, and obvious meaning and intention. If any Medical Officer, presuming on this clause, should be silly enough to put forward any the smallest claim to military command, your Lordship may rely with confidence on the Queen's Regulations and the Mutiny Act in the hands of military commanders to repress such pretensions should they arise, without having recourse to exceptional regulations injurious and affronting to the whole department.

"Let such pressure be put on the India Office by Her Majesty's Government as shall insure the extension of the Warrant in its integrity to India.

"Make retirement optional on a fair pension after twenty years. The nature of the military medical service is so trying to health that many after that time, for the most part spent in unhealthy climates, are incapable, without much risk and suffering, of further duty.

"Make retirement at twenty-five years also a matter of right, at the full rate of pension for this period of service.

"Let a few simple alterations in the dress of Medical Officers be made, so that, while there will be no difficulty in recognizing them as members of the Medical Staff, what is offensive in the details of the present dress may be done away with.

"Let the pay of Medical Officers, beginning say at 12s. 6d. *per diem*, increase in some regular progression at stated periods until the rank of surgeon-major is attained, with the present pay of 25s. a day.

"Finally, let assistant-surgeons be promoted at the end of ten years' full pay service.

"These measures will keep hope and energy alive in the service, banish discontent, restore confidence in the Schools, and promote the highest interests of the public service."

P.S.—As these sheets are passing through the press we learn that Sir C. Wood brought forward, on 19th July, an India Medical Service Bill, that would do away with competitive examinations, which he declares have entirely failed for the Army Medical Service. By this means the vacancies in the service may no doubt be filled up, but what safeguard are we to have against the admission of such men as the rejected candidates lately described by Professor Parkes in his speech to the Medical Council.

1. *The Prescriber's Companion.* By ALFRED MEADOWS, M.D., M.R.C.P. London: Renshaw. 1864. Pp. 152.
2. *The Prescriber's Analysis of the British Pharmacopæia.* By J. BIRKBECK NEVINS, M.D., London. Second Edition. London: Churchill. 1864. Royal 32mo, pp. 264.
3. *The Prescriber's Pharmacopæia, containing all the Medicines in the British Pharmacopæia of 1864, arranged in Classes according to their Action; with their Composition and Doses.* By a PRACTISING PHYSICIAN. Fifth Edition. London: Churchill. 1864. Fcap. 16mo, pp. 156.
4. *Selecta à Præscriptis: Selections from Physicians' Prescriptions; containing Lists of the Terms, Phrases, Contractions, and Abbreviations Used in Prescriptions, with Explanatory Notes; the Grammatical Construction of Prescriptions; Rules for the Pronunciation of Pharmaceutical Terms; a Prosodiacal Vocabulary of the Names of Drugs, &c.; and a Series of Abbreviated Prescriptions Illustrating the Use of the preceding Terms: to which is added a Key, containing the Prescriptions in an Unabbreviated Form, with a Literal Translation. For the Use of Medical and Pharmaceutical Students.* By JONATHAN PEREIRA, M.D., F.R.S. Fourteenth Edition. London: Churchill. 1864. 24mo, pp. 352.
5. *Notes on the British Pharmacopæia; showing the Additions, Omissions, Change of Nomenclature, and Alterations in the Various Compound Preparations; with the Doses of those Medicines which are comparatively New.* By A. F. HASELDEN, Pharmaceutical Chemist. London: Hardwicke. 1864. Pp. 82.
6. *The Essentials of Materia Medica and Therapeutics.* By ALFRED BARING GARROD, M.D., F.R.S. Second Edition. London: Walton and Maberly. 1864. Small 8vo, pp. 391.
7. *A Treatise on Pharmacy. Designed as a Text Book for the Student, and as a Guide for the Physician and Pharmaceutist; containing the Official, and many Unofficial, Formulas, and Numerous Examples of Extemporaneous Prescriptions.* By EDWARD PARRISH, Member of the Philadelphia Coll. of Pharmacy, &c. Third Edition. Philadelphia: Blanchard and Lea. 1864. 8vo, pp. 850.

THE appearance of the revised *Pharmacopœia* of the United States of America in the latter part of the year 1863, and of the *British Pharmacopœia* early in the present year, has had the effect of communicating a fresh impulse to the energies of an ever-fertile press, the operation of the specific stimulus having manifested itself in an unusually abundant issue of new works on medicines and medicinal agents. Some few of these volumes, whose titles have been placed above, are now before us, inviting a careful perusal, and awaiting a candid criticism. One might be induced, *a priori*, to expect that but little variation would present itself in a series of commentaries from different pens on the several preparations of our *Pharmacopœias*, save that which would necessarily depend on the peculiar arrangement of the mere details; one writer preferring to tabulate his materials in accordance with his views of their therapeutic action; another taking advantage of an alphabetic arrangement; while a third proceeds upon a plan which differs from either of the others; and so on. Supposing, for example, that we desired to obtain some information concerning a new medicine or preparation in the *British Pharmacopœia*, and one whose name was not to be found in any of the older formularies, we are reasonably led to expect that, in their general features at least, the several accounts or descriptions of the same medicine will agree, inasmuch as the *Pharmacopœia* furnishes an unvarying and authentic basis whereon the several writers may found their comment or their criticism. Let us proceed to examine this point. On casually glancing at one of the indices we are arrested at the name of *syrupus ferri phosphatis*, and on referring to the proper page we read:—"Ferri phosphas.—Prepared by mixing a solution of sulphate of iron with one of phosphate and acetate of soda;" and a little lower down we are informed that the *syrupus* is to be "prepared by adding to the well-washed precipitated phosphate, prepared as above, some dilute phosphoric acid, and lastly sugar. 224 grains of the *original sulphate* of iron are contained in twelve fluid ounces of the syrup, or about *two* grains in the drachm" (Meadows, p. 18). Now the merest tyro in chemistry must perceive that not a particle of the original sulphate is contained in the syrup of the phosphate, if the latter be made as directed in the *Pharmacopœia*. We turn next to Dr. Garrod's work, and find, at page 75, the following account of this preparation:—"Phosphate of iron is prepared by precipitating a solution of 224 grains of granulated sulphate of iron, with a mixture of 200 grains of phosphate, and 74 grains of acetate of soda; the precipitate is pressed strongly

between folds of bibulous paper, and five fluid ounces and a half of dilute phosphoric acid added; as soon as the precipitate is dissolved the solution is filtered, and sugar added and dissolved without heat. *One grain* of the iron salt is contained in each fluid drachm of the syrup." As the exact quantity of each of the chemical materials employed is here set down, the student is furnished with a ready means of calculating for himself whether the strength of the preparation has been correctly stated; and he will find that when the protoxide of iron, derived from the original sulphate, has combined with phosphoric acid, according to the formula $3\text{FeO} \cdot \text{PO}_5$, a precipitate will be formed, which (supposing it to be free from moisture) ought to weigh about *ninety-six* grains. This precipitate, when dissolved as directed, becomes ultimately diffused through *ninety-six* fluid drachms of the syrup. On referring next to page 28 of Dr. Nevins' *Analysis*, we find this same preparation stated to contain, of "phosphate of iron, dissolved by excess of phosphoric acid, *three grains and a half* in each fluid drachm." According to the *Prescriber's Pharmacopœia*, "one fluid drachm contains one grain of salts." With a view of ascertaining whether the discrepancies found in the several accounts of this preparation might not be attributed to accidental inaccuracy, we proceeded further to examine another of the iron preparations, namely, the syrup of the iodide, and expected to find more unanimity of opinion. The following is the result:—Dr. Meadows states that this syrup "is about twice the strength of the preparation in the *Pharmacopœia Londinensis*, and contains about *ten grains* of the crystallized iodide in a fluid drachm;" while Haselden considers that "one fluid drachm should contain about *five grains* of iodide of iron." Dr. Garrod, with a very near approach to accuracy, estimates the strength of the preparation as four grains and a half in the same quantity; Dr. Nevins, one grain in every twelve drops; *Prescriber's Pharmacopœia*, four grains and a half to the fluid drachm. In the directions of the *British Pharmacopœia* for forming this preparation, there is a source of error which might easily be overlooked in making the necessary computation of its strength; this is contained in the statement, the "product should *weigh* two pounds eleven ounces," while in fact it measures at the same time about thirty-one ounces, as may of course be ascertained by dividing the weight by the specific gravity. According to our own calculation, the strength of this syrup is, *quam proxime*, 4·3 grains in each fluid drachm.

The arrangement adopted by Dr. Meadows in his *Companion* is rather a good one, and offers many advantages in the way of reference. The little work is divided into six parts. The first contains remedies for external application; in the second are arranged those medicines which act upon the blood; the third comprises such as act on the nervous system; the fourth contains those which affect the secretory system, while in the fifth are found medicines whose action is exerted on the generative system; the sixth contains a list of disinfecting agents; also poisons, and their antidotes. The author's intention, as stated in the Preface, has not been in any way to give directions how to *make*, but only how to *use*, the preparations—to state their composition, and to give briefly an outline of the process adopted in the manufacture of some of them. There are, however, throughout the work numberless instances in which this intention appears to have been in some measure lost sight of; and even in the attempt to transcribe the names and descriptions of articles of the *Materia Medica*, from the pages of the *British Pharmacopœia*, the errors are neither few nor unimportant. *Sarsa* in one place and *sarza* in another are described as the powdered root of *smilax officinalis*, on the authority of the *B. P.* Ammonium is confounded with ammonia, potassium with potassa; nominative cases are mixed with genitive in the most perplexing confusion, and without the slightest regard to grammatical propriety. Again, the seeds of the *amygdalus communis* are ordered by the *British Pharmacopœia* to be prescribed under the name of "*amygdala*," in the *singular* number, like *rosa*, *colchici semen*, &c.; our author transcribes "*amygdalus*," as if it were thus written, although in the next page he adopts the name *oleum amygdalæ* without hesitation. By the way, these two substances, namely, the seed and the oil, we find classed under the head of sedatives! the dose of the oil being stated to range from one to four fluid drachms as a demulcent and emollient; from one to two as a sedative. One would suppose that a little more trouble would be bestowed upon cautioning the student against confounding this oil with the essential oil of bitter almonds. Now, the *British Pharmacopœia* describes *oleum amygdalæ* as being "*pale yellow, nearly inodorous, or having a nutty odour, with a bland oleaginous taste*;" and has carefully supplied a test to be used in examining the seeds from which this same oil is expressed—"not bitter; not evolving the odour of bitter almonds when bruised with water." This would appear to exclude the *sedative* element altogether. Again, in

commenting on some of the liquid extracts—a class of preparations whose introduction into our new *Pharmacopæia* cannot be too highly commended—they are simply designated aquo-spirituos extracts, a misnomer in more ways than one; while in the case of *extractum ergotæ liquidum*, the object or intention of employing ether in its preparation is quite misinterpreted, whereby a student would be led astray in his search for information regarding a form of medicine which promises to be of much value.

We were just about closing this book, and bidding a long farewell to *The Prescriber's Companion*, when the following passage in the Preface caught our eye:—"Perhaps the simplest way of indicating the changes *now* and *hereafter* to be *adopted in prescribing* is by giving an illustration, for which the following may suffice:—

“℞—*Ammonia carbonas*, grs. 30.
Spiritus chloroformi, f ʒi.
Aqua camphoræ, f ʒviii.—℞. ft. mist.

“The difference in the *numerals* used respectively for solids and fluids is in accordance with the order of Council.”

Should this page meet the eye of some student preparing for examination, amongst which class we regret to say are to be found some who are not very expert at latinising their therapeutic intentions, we would earnestly recommend him to compare diligently the production which is copied above, with some of the excellent formulæ contained in the ninth chapter of Dr. Pereira's *Selecta à Præscriptis* (Fourteenth Edition, pp. 149 et seqq.). It were no waste of time, indeed, to bestow a careful perusal on the entire chapter, which is entitled, “On the Grammatical Construction of Prescriptions.” If he should fail to find himself, on completing this task, prepared to indite something more creditable than the specimen here placed before him, he must be lamentably dull and deficient.

Of a different stamp altogether from the foregoing is the little work of Dr. Nevins; differing in its arrangement—the contents of the several chapters being disposed alphabetically—different in the value of its contents, the information which it contains being, with one or two exceptions, remarkably accurate, clear, and to the purpose. There is one chapter to which we desire particularly to direct the attention of students and young practitioners, namely, that which gives a detailed account of the new substances and preparations introduced into the *British Pharmacopæia*, as well as an account of

several medicines in modern use which are not contained in our National Code. This chapter extends to nearly 70 pages, and will be found to repay a diligent perusal. Towards the end of the book there is a clear and happy exposition of the *rationale* of the volumetric processes recommended by the *B. P.* to be employed in testing the strength of the several chemical preparations. To one unaccustomed to volumetric manipulation there is some difficulty and obscurity in the Pharmacopœial directions for preparing the test-solutions; nothing, however, can be more lucid and intelligible than the exposition which Dr. Nevins has given of the entire subject in this final chapter. On the whole, we consider this analysis of the *Pharmacopœia* to be a most excellent and useful *valde necum*.

The *Prescriber's Pharmacopœia*, by a Practising Physician, has been known to the profession for upwards of thirteen years, during which time four editions have successively been issued. The plan of the present edition appears to be similar to that of its predecessors; remodelled, however, in accordance with the new *Pharmacopœia*. We are informed, moreover, in the advertisement, that the whole of its contents have been otherwise carefully examined and corrected; and truly a diligent scrutiny of the entire work enables us to attest the accuracy of this statement. Errors of haste or inadvertence, from which books of this kind can be hardly expected to be quite free, are apparently but few here; nevertheless there are some which we cannot avoid to notice. In one place we read:—"Linimentum calcis (carron oil). *Comp.* Lime water and olive oil, of each equal parts." In another place:—"Linimentum calcis (carron oil, not officinal). *Comp.* Equal parts of lime water and linseed oil." Again we read:—"Lotio flava (aqua phagedenica, not officinal). *Comp.* Hydrarg. bichlor. 2 fluid grains, aquæ calcis 1 fl. oz.;" and further on in the same page:—"Lotio nigra (black wash, not officinal). *Comp.* Calomel 20 gr., liq. calcis 6 gr." It is easy to trace the origin of these errors, but we cannot so readily account for *extractum lupuli* being designated "a watery extract." In apportioning the doses of medicines throughout this book, the author has acted upon an opinion which is strongly expressed in the advertisement to his first edition, to the effect that "the general habit of practitioners in this country is to prescribe medicines in doses not merely unnecessarily but injuriously large;" accordingly, the doses in many instances are represented rather below the usual standard, at least as regards their minimum. By the way, there is one of our new medicines, namely, digitalinum, whose ordinary dose

is represented as ranging from one-fortieth to one-twelfth of a grain, which would appear to be rather large, for the present at least, and until we shall have had a little more clinical experience of its action on the system.

Of the late Dr. Pereira's *Selecta & Præscriptis* it were almost superfluous to speak. It is a work which has been before the public for forty years, the first edition having been published in 1824. The following extract from the preface to the fourteenth edition, which has recently appeared, may be taken as a guarantee that this is not a mere reprint:—"By the publication of the *British Pharmacopœia* certain changes have been effected, especially with reference to weights and measures and the names of medicines, and these and some other similar changes it was necessary to notice. The object, however, of this little work is not merely to represent the prevailing mode of prescribing medicines according to the instructions of Pharmacopœias which continue in authority, but to explain and illustrate the use of terms which are commonly used or may be occasionally met with in extemporaneous prescriptions, and a knowledge of which is required alike by medical and pharmaceutical students. The prescriptions contained in the second and third parts of the work are intended to represent such as are met with in practice, and in which old as well as modern names and other terms are employed."

In order to meet the requirements of the new *Pharmacopœia* it was necessary that the chapter on the symbols and signs used in prescriptions should be newly constructed—in fact altogether rewritten. This has been so ingeniously done, by cancelling a few leaves of the last edition and substituting fresh ones in their stead, that the pagination remains exactly as before. In the second and third parts of the work we have searched carefully among the prescriptions for the names of medicines whose old names have now acquired a different meaning, as in the case of *hydrargyri chloridum*, which formerly (in England) meant calomel, but now represents corrosive sublimate; and in every instance, on comparing the present with the last edition, we have found the necessary alterations have been made. The character of the book appears to be thoroughly maintained in this new edition, a copy of which ought to be in the hands of every student.

The *Notes on the Pharmacopœia*, by Mr. Haselden, will be found to contain, in a concise and well-arranged form, a series of tables in which are pointed out the additions, omissions, and changes of name

which have occurred as regards the *British Pharmacopœia* when compared with the last editions of those of London, Edinburgh, and Dublin. As a convenient book of reference for practical pharmacists it promises to be very useful, the tables being most carefully and elaborately constructed, and extending over six-and-thirty pages. After these tables come the "Notes," which consist of a short review of each of the pharmaceutical preparations separately, showing the actual difference existing between the present and former preparations bearing the same or similar name. The dose, in a great many instances, has been omitted, which, in our opinion, detracts somewhat from the value of the book. In the case, however, of all medicines which have been materially altered, or are comparatively new, the dose is carefully stated. As we have alluded to digitalinum in speaking of another of these little guide books, we now refer to the same word, and transcribe the note thereon:—"Digitalinum.—This very powerful alkaloid (?) is introduced for the first time; its employment requires the greatest possible caution, the dose being one-sixtieth to one-thirtieth of a grain. The process resembles that given in *Parrish's Practical Pharmacy*." We have examined this book very carefully, and have no hesitation in recommending it as a safe guide to the student.

The *Essentials of Materia Medica and Therapeutics* in its present shape is a very considerable modification of the former edition of a work, which appeared under the same name, from the pen of Dr. Garrod. Before proceeding to examine the work in detail we should lay before our readers the announcement which faces the title page of this second and much enlarged edition:—"It has been considered desirable to make two separate books of the work originally announced under the title of *Medicines; their Nature and Value in the Treatment of Disease*. The *Essentials of Materia Medica and Therapeutics* is now published, a work of the kind being much in request at the present time. It will be followed by a companion work, completing the original idea, and devoted exclusively to the consideration of the value of medicines in the treatment of disease. Each book will be complete in itself."

We are further informed, in the Preface, that "the present work is intended to serve as a text-book of *Materia Medica*; and, while it is hoped that it omits nothing essential to the study of the science, it excludes such details as are often embarrassing to the student and seldom necessary to the practitioner. It has been his object, while limiting its size, to include all points connected with

the officinal preparation of medicines, and so much information on the therapeutic action of drugs as would serve as a sufficient guide in actual practice. All controversial points have been avoided as unsuited to the design of the work, and the information confined to the facts really ascertained as to the action of each drug, and the purposes for which it has been advantageously employed."

The work opens with a table, in which are exhibited the more important differences between the nomenclature of the *London Pharmacopœia* of 1851 and the new British. This table also shows those alterations in the strength of preparations which have appeared to possess sufficient importance to render them *essential* to be borne in mind in prescribing. It is much to be regretted that the author has omitted the consideration of the essential differences between the *British Pharmacopœia* and those of Edinburgh and Dublin respectively; and we cannot avoid contrasting the want of completeness of this table with the extreme fulness of those given in Mr. Haselden's book above noticed.

No work on medicines can be complete without a clear and comprehensive statement of pharmacopœial weights and measures, and their relations to other weights and measures; and, accordingly, the author has prefixed to this treatise a very careful *resumé* of this department. In the course of his remarks he observes:—"It will be observed that *symbols* representing the different weights and measures have been introduced—℔. representing the pound, oz. the ounce, and gr. the grain. It will also be seen that the numbers made use of under the weights are of the *Arabic* character. The symbols for the measures are—C for the gallon; O, the pint; fl. oz., the fluid ounce; fl. drm., the fluid drachm; and min., the minim; and the numbers, instead of being *Arabic*, as in the case of the weights, are the *Roman* numerals. It will be seen that the solid drachm and the scruple have been omitted from the *Pharmacopœia*; *if still made use of* they will represent sixty and twenty grains respectively in Great Britain, and not the eighth and twenty-fourth part of the avoirdupois ounce; but in Ireland these same symbols will only represent 54·68 and 18·22 grains. Such being the case it will be advisable to discard the employment of these symbols altogether. The avoirdupois fluid ounce corresponds to the solid ounce in the case of distilled water at 60° Fah.; that is, one fluid ounce weighs exactly an ounce. A minim of distilled water, however, does not weigh one grain, as the fluid ounce is divided into 480 minims, the solid ounce into 437·5 grains only."

There are some matters connected with the use of these symbols which we have not seen noticed by any of the numerous commentators and writers, and to which we cannot avoid directing attention. If the symbols for the several measures and weights are to be employed by prescribers according to the example furnished by the *Pharmacopæia*, it may be fairly asked; How are we to represent half a grain of any solid medicine? On referring to the table of weights in the *Pharmacopæia* the only symbol for this quantity is met with in the case of the ounce, which is stated to contain 437·5 grains. This would appear plainly to indicate that ·5 is the correct representation of one-half; and the fact that all through the *Pharmacopæia* the employment of vulgar fractions has been carefully eschewed, is in favour of the view we have expressed. It may be objected that ·5 could easily be mistaken for the whole number 5, and thereby a dangerous or even a fatal consequence be induced; but such an objection is easily removed by the prescriber taking care to prefix a cypher in every case where a quantity less than unity is employed; thus, half a grain would be, gr. 0·5; one quarter grain, gr. 0·25. There may be some doubts, also, whether in the case of fluids the old symbol for one-half should remain in use, seeing that no provision has been made for such a quantity in the *Pharmacopæia*. No doubt it was a most convenient sign, and not very liable to be misinterpreted, while it conforms well with the Roman numerals, which are recommended for liquid measures. We have met with many practitioners who are disposed to look upon the introduction of such makeshifts as “fl. oz.” and “fl. drgm.,” as a questionable improvement on the old-fashioned symbols for an ounce and a drachm; to such we would recommend the excellent suggestion contained in the following extract from a work by Chamberlain, who wrote in 1819. He says:—“I wish some other character could be substituted either for the *ounce* or the *drachm*; for the two characters being so extremely alike, I am well persuaded many very bad mistakes occur; the *drachm* being nearly a figure of 3, requires nothing but one small angle over it to make it an *ounce*; thus, the mistake is easily made, in the hurry of writing by the prescriber, or in the making up by the compounder. So sensible of the possibility, or rather so well acquainted with the certainty of fatal mistakes having happened from this similarity of figure in the marks of the drachm and the ounce, was that excellent and incorruptible patriot, Dr. Charles Lucas (of Dublin), that the very first bill he brought into Parliament, after he had been returned a

member for the City of Dublin, was a bill to compel the physicians of Ireland to discontinue the using of characters in their prescriptions, and to write the words at full length—*uncias tres, drachmas duas, scrupulum unum cum semisse*."—(*Tyrocinium Medicum*, second edition, as quoted by Pereira.)

The remainder of the introductory chapter is occupied with some general remarks on certain groups of pharmaceutic preparations contained in the *British Pharmacopœia*. Concise as these remarks are, they will be found of much service, the reader being enabled at once to discover the nature of the more important general characters, and readily to comprehend the peculiarities in nomenclature and methods of preparation found in many of these preparations. The information conveyed in this chapter is presented in a much more readable shape than it would probably be by the aid of tables.

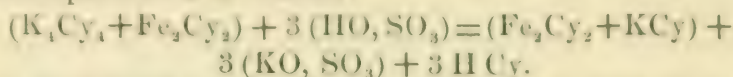
In the arrangement of the MATERIA MEDICA, substances of inorganic origin are first treated of in regular succession; next, medicines obtained from the vegetable kingdom, classed according to the natural system, commencing with plants highest in the scale of organization; and lastly, animal products, in conformity with a similar arrangement. In order to give a correct view of the general way in which the subjects have been treated in the work before us, we shall transcribe *in extenso* the article on *Acidum Hydrocyanicum Dilutum*, as a fair specimen:—

“*Acidum Hydrocyanicum Dilutum*. Dilute Hydrocyanic Acid, or Prussic Acid. Hydrocyanic acid dissolved in water, and constituting 2 per cent. of the solution.

“This acid contains rather more than half as much anhydrous acid as *Acidum Hydrocyanicum*.—*Edin.*

“*Prep.* (Ferrocyanide of potassium, two ounces and a quarter; sulphuric acid, seven fluid drachms; distilled water, thirty fluid ounces, or a sufficiency. Mix the acid with four fluid ounces of the water, and to these, placed in a retort, when they have cooled, add the ferrocyanide of potassium, first dissolved in half-a-pint of the water. Put them into a retort, and adapt this to a receiver, containing eight ounces of the water, which must be kept carefully cold. Distil with a gentle heat till the fluid in the receiver measures seventeen ounces; lastly, add three ounces or as much water as may be necessary to bring the acid to the required strength.) The changes occurring in this process are rather complex, but in substance may be shown as follows: Ferrocyanide of potassium is a double cyanide of potassium and iron ($2 \text{ K Cy} + \text{Fe Cy} + 3 \text{ HO}$); when acted upon by

sulphuric acid and water, a portion of the cyanide of potassium of the salt is decomposed into hydrocyanic acid and sulphate of potash, and a salt containing two equivalents of cyanide of iron to one of cyanide of potassium, is left in the retort, called Everitt's yellow salt; the formula for the decomposition is as follows:



"Anhydrous prussic acid can be prepared by passing sulphuretted hydrogen (hydrosulphuric acid) over cyanide of mercury: a sulphuret of the metal and hydrocyanic acid are then formed. Hydrocyanic acid is also produced when amygdaline, a principle contained in the bitter almond and the kernels of allied fruits, is decomposed by the action of the albuminous principle contained in such fruit; *vide* Amygdala Amara.

"*Prop. & Comp.* The dilute acid, prepared as above, is a colourless liquid of peculiar odour and taste, entirely volatilized by heat, with a very slight acid reaction, and the reddening produced on litmus paper fugitive in character. Sp. gr. 0.997. It contains 2 per cent. of real or anhydrous acid (H, Cy). Treated with a minute quantity of a mixed solution of sulphate and persulphate of iron, and afterwards with potash, and finally acidulated with hydrochloric acid, it forms Prussian blue. With nitrate of silver it gives a white precipitate, entirely soluble in boiling nitric acid. Half a fluid ounce of the acid, when treated with an excess of solution of soda, requires the addition of 80.66 measures of the volumetric solution of nitrate of silver before a permanent precipitate begins to form, which corresponds to 2 per cent. of anhydrous acid. The explanation of this test is as follows: When nitrate of silver is added to a solution of hydrocyanic acid with excess of soda, a double cyanide of silver and sodium is formed, which is soluble, and is dissolved when the solution is well stirred; this salt is formed until all the hydrocyanic acid present is exhausted, and then the further addition of nitrate of silver causes the precipitation of the oxide of silver, which is insoluble. As the double cyanide has a definite composition, by knowing the amount of nitrate of silver required to produce a permanent precipitate, we can calculate the amount of hydrocyanic acid present in the fluid. The decomposition may be illustrated by the formula, $Ag O, NO_3 + 2 Na Cy = Na O, NO_3 + Na Cy, Ag Cy$. 17 grains of nitrate of silver, or 100 measures of the volumetric solution, representing 5.4 grains of absolute hydrocyanic acid.

"The dilute acid, when pure, is not coloured by sulphuretted hydrogen or precipitated by chloride of barium, showing the absence of metallic taint or sulphuric acid, and no red colour is produced on the addition of the iodo-cyanide of potassium and mercury, showing the absence of any foreign acid.

"The acid known under the name of Scheele's prussic acid contains 4 per cent. of anhydrous acid.

“The anhydrous acid is colourless with a more intense odour than the dilute, sp. gr. 0·697, very volatile, and rapidly decomposed into a carbonaceous-looking matter. The dilute acid can be much longer preserved when a little mineral acid is present, as a trace of sulphuric or hydrochloric acid.

“*Therapeutics.* Anhydrous prussic acid is one of the most intense and rapid of poisons, acting as a direct sedative, apparently from arresting the functions of the whole body; its effects are the same whether taken into the stomach or applied to other mucous membranes, as to the eye, or inhaled as vapour.

“When much diluted, and in medicinal doses, it allays pain and spasm, and if the dose be large, induces giddiness, &c. It is given in painful affections of the stomach and intestines, as in gastrodynia, enterodynia, pyrosis, and vomiting; also in chest affections, as pertussis, asthma, and other cases where the character of the cough is nervous; occasionally it is used to allay palpitation of the heart, especially when connected with dyspepsia, and it has been prescribed in epilepsy, chorea, and other diseases of the nervous system.

“Externally applied it allays irritation of the skin, and when freely diluted may be used in the form of lotion in cutaneous affections accompanied with much itching: great care should be taken that the skin is not abraded.

“*Dose.* Of the acidum hydrocyanum dilutum 2 min. to 10 min. Scheele’s acid is twice the strength, and it is very desirable that it should not be employed in medicine. Aqua Lauro-Cerasi, or cherry-laurel water, which owes its activity to hydrocyanic acid, is described under Lauro-Cerasus.

“Externally, in the form of lotion, 1 fl. dr. or more may be added to 10 oz. of water, lead lotion, or almond emulsion.

“*Incompatibles.* It is often prescribed with alkalies, as liquor potassæ, &c.; then a cyanide of the metal is formed, which acts in the same manner as the acid; but if a salt of iron be also present, yellow prussiate or ferrocyanide of potassium is produced—a salt possessing none of the properties of prussic acid.”

Considering the short time that elapsed between the publication of the *British Pharmacopæia* and the appearance of the present work, and the haste with which, necessarily, the formulæ have been transferred from one to the other, very few errors have found their way into the latter during the process. We have been able, indeed, to detect *but one*, and that occurs in page 273; the diligent reader can find it without requiring our assistance. We now take leave of Dr. Garrod for the present, and trust that the issue of the

companion work, on the value of medicines in the treatment of disease, will afford us an early opportunity of expressing with regard thereto an opinion not less favourable than that which we have formed of the present volume.

An attempt to furnish anything like an analysis of Parrish's very valuable and elaborate *Treatise on Practical Pharmacy* would require considerably more space than we have at our disposal. This, however, is not so much a matter of regret, inasmuch as it would be difficult to think of any point, however minute and apparently trivial, connected with the manipulation of pharmaceutic substances or appliances, which has not been clearly and carefully discussed in this volume. It appears to have been the design of the author to have introduced all the formulæ of the *British Pharmacopœia* into this work; but "the long delay in the revision, consequent on the disagreement on the vexed question of weights and measures, has prevented this, and somewhat limited the sphere of the present edition." The "official" formulæ, then, throughout this work are those of the United States' *Pharmacopœia* only; but, in addition to these, a number of very useful and excellent unofficinal formulæ, proprietary medicines, &c., are introduced. In the fifth part, which is devoted to the consideration of extemporaneous pharmacy, are some admirable prefatory remarks on the theory of prescribing, the language used, and the method to be observed in inditing prescriptions. In the section on the mechanical arrangement and the grammatical construction of prescriptions, the student will find some hints that are worthy of his attention. For example:—"The abbreviations allowable in prescriptions might fill some pages if tabulated, but no practical advantage would result from it, while the habit once acquired of *writing every word so fully as that it could be mistaken for no other* would quite obviate the evils complained of." This suggestion is so completely in accordance with what we have already quoted from another source that we are glad of an opportunity of reiterating our approval of the sentiment. Want of space prevents our enlarging further on this valuable work, and we must conclude by a simple expression of our hearty appreciation of its merits.

Contributions to Practical Medicine. By JAMES BEGBIE, M.D., F.R.S.E.; Fellow and late President of the Royal College of Physicians; Physician in Ordinary to the Queen in Scotland, &c.

THE author of the work before us is well known to the profession as a physician of high authority in matters appertaining to practical medicine; and, therefore, his "Contributions" cannot fail to be read with profit, not merely by the young and inexperienced practitioners, but by those who may be looked upon as experienced.

With the exception of the paper on gout all the others have been read before the Medico-Chirurgical Society of Edinburgh, and have been published in the periodicals of the time; but we rejoice to see essays of such great value published in their present form. It is often a subject of regret that some of the most valuable contributions to medicine are scattered amongst periodicals not always within reach, and frequently involving much trouble to the person who is engaged in the search. The practice of reproducing papers, in a collected and more convenient form, is one worthy of imitation when the materials are of the quality which we recognize in these "Contributions" of Dr. Begbie's. The subjects discussed in the "Contributions" are of great interest and importance:—Gout and the Gouty Diathesis; On the Relation of Rheumatism and Chorea; On the Connexion of Erythema Nodosum with the Rheumatic Diathesis; On Anæmia and its Consequences; Enlargement of the Thyroid Gland and Eye-balls; On Dyspepsia and Nervous Disorder in Connexion with the Oxalic Diathesis; On Fatty Degeneration of the Heart; On Erysipelas; On Diphtheria and its Sequels; On the Physiological and Therapeutical Effects of Arsenic; On the Sedative Powers of *Datura Stramonium*.

The Essay on Gout, the first in order, contains much that is valuable, particularly as regards the gouty diathesis. Many physicians, it has been observed, fail to recognize gout except when it appears in its open and undisguised manner—when it attacks the foot or, perhaps, the toe, failing to perceive its influence in the derangements and diseases of many internal organs.

Dr. Begbie truly observes:—"Gout is a blood disease; it may disclose itself in every organ of the body and complicate and involve every disturbance of the system. It may visit every part and every texture from the crown of the head to the sole of the foot, and molest and vitiate every function appertaining to life."

We agree in the opinion of the author, that dyspeptic symptoms invariably precede even the first invasion of gout. The common idea that a fit of gout exercises a salutary influence on the system has led to much mischief—a belief not exclusively held by the laity, but shared by some physicians. Nothing is more important than to remember "*principiis obsta.*" Judicious treatment on the part of the physician, and the exercise of self-denial on the part of the patient, may, at an early period, check the progress of a disease which, if neglected, is sooner or later productive of irremediable evil.

The transmission of a disposition to certain diseases, without the gout, by parents who have themselves been gouty, is a subject of much interest; this fact is exemplified by the offspring of gouty parents suffering from nephritic disease and cutaneous affections which have been found amenable to the treatment which experience tells us has most influence on gout.

The connexion between rheumatism and cardiac inflammation is one of the best established facts in medicine, but it is not by any means generally admitted that there is any tendency to cardiac complication in the course of gout. Dr. Begbie entertains strong views in favour of the frequency of pericarditis and endocarditis being directly traceable to the gouty diathesis. "May not," he asks, "the transient pangs in the cardiac region, which so constantly affect the victims of the gouty habit, originate in the specific inflammation when it is in the act of depositing lymph which is, by slow, but sure degrees, to form the milky patches, and the small adhesions and the puckered valves, &c., &c." In two instances he has observed pericarditis allied with gout by ties as intimate and indubitable as he has ever known it to be connected with acute rheumatism.

Cases are given illustrative of the part gout plays in some of the organic and functional diseases of the uterine system; and on this point the author quotes a communication which he received from Dr. Simpson:—"I have seen several cases of inflammation of the uterus, or rather of the uterine region, of the nature of simple gout, or rheumatic gout, or, at all events, I believed these inflammatory attacks to be of this special pathological character." Dr. Simpson then refers to a case of pelvic cellulitis which he saw with Dr. Begbie, and which came on during an attack of gout in the fingers. In this case the pelvic effusion was absorbed under local antiphlogistic means and the use of colchicum. In one case of uterine gout Dr.

Simpson refers to, the lady was attacked, repeatedly and metastatically, in the uterus.

Sciatica and other painful neural affections in persons with hereditary disposition to gout are found to yield to colchicum and alkalies after the failure of other agents. The brain and spinal marrow are not exempt from the effects of the gouty poison; the fact of its influencing the former has been long recognized, but not so its operation on the latter. Dr. Graves long since endeavoured to prove that gouty inflammation of the nerves and neurilemma may ultimately, by extending, produce structural change in the spinal marrow. Dr. Begbie, without venturing on a conclusion as to the accuracy of Graves' opinion as to its being peripheral, has no hesitation as to the existence of a peculiar form of paralysis of the lower extremities which he believes to be intimately associated with the gouty diathesis.

The natural history of gout, illustrated by individuals and family groups, is fully entered into. It may appear to many that Dr. Begbie has overdrawn the picture, and that he sees gout, or rather the gouty diathesis, in various organic diseases and functional disturbances which have no connexion with an original taint; but we are not of this opinion, for we are convinced of the great frequency of the gouty diathesis, though we cannot go quite as far as Dr. Gairdner, who believes that "the strumous is not more frequent than the gouty habit." We are bound, however, to admit that the experience of many of the highest authority goes far to confirm the belief of Dr. Gairdner. Sir Benjamin Brodie says:—"A large proportion of the people who come to me with what are esteemed to be local diseases are, in reality, suffering from the influence of the gouty poison in the system, though they have nothing which would commonly pass for gout."

Dr. Begbie, in entering on a consideration of the treatment of gout, quotes, with approbation, the wise saying—that gout, in the early stages, is curable, if not through physic, yet through the physician; but he adds, the remark might be extended to include the patient whose co-operation is so essential. We believe no better rules of treatment can be inculcated than those which Dr. Begbie lays down. He says, temperance, strict temperance, in the gratification of every appetite is demanded of every subject of the gouty diathesis. In a fit of the gout confinement to bed, the foot being elevated and enveloped in warm water dressing and oiled silk—a practice which we have seen productive of great alleviation of pain.

Attention must be paid to the functions of the liver and bowels—to the kidneys and skin.

The salts of potash, in full and continued doses, are recommended in conjunction with colchicum; but the latter, if given alone, is often found uncertain, and of doubtful efficacy. The administration of large doses of colchicum is condemned; though likely to bring an attack of gout rapidly to an end, the system is not relieved. The combination Dr. Begbie recommends is twenty drops of the wine of the seed with scruple doses of the acetate or nitrate of potash three times daily. He believes that colchicum acts beneficially by favouring the elimination of uric acid from the system, and that its effect is best produced when it acts silently and slowly, without depressing the nervous system or exciting, in a marked manner, the secreting organs. Colchicum, with depurants, will be found of advantage in affections of the skin connected with the gouty habit, as well as in inflammatory affections of the eye, and of organs essential to life, after the employment of depletion and mercury—not alone in inflammatory affections, but in headache, toothache, lumbago, sciatica, &c., &c.

When the heart is feeble and dilated, Dr. Begbie recommends iron in conjunction with colchicum.

On the Relation of Rheumatism and Chorea is the subject of the second essay; and here we find our author confirming the connexion which we have often observed, and which was long since noticed by Drs. Copland and Bright. Subsequent writers have, by reference to numerous examples, confirmed the accuracy of these observations. We may refer to the memoir of M. Sée, of Paris, and also to the papers of Drs. Kirkes and Bond, and to the clinical lectures of Dr. R. B. Todd.

On the Connexion of Erythema Nodosum with the Rheumatic Diathesis.—This paper will be found to fairly establish the fact which our author enunciates, viz., that the erythema is connected with a marked diathesis, the rheumatic, and that the skin affection is symptomatic of the blood disease. The reasons which he assigns for the conclusion are the following:—

“1st. The skin affection is most prevalent in, if not confined to, the young; and those under thirty, the chief subjects of the rheumatic diathesis and rheumatic fever.

“2nd. It occurs very frequently in females suffering from menstrual derangement, confirming the views of Drs. Todd, Rigby, and Sir Chas.

Locock, as to the intimate connexion of disorder of the uterus with rheumatic affections.

“3rd. It occurs in connexion with disorder of the general health, characterised by palor, cachexia, and defective excretion; and subsequently developed in febrile excitement, pains in the joints and muscles, and the copious deposition of lithates in the urine; a state of matter analogous to what takes place in rheumatism.

“4th. It is associated frequently with rheumatic fever, co-existing or alternating with it. This is often complicated with the internal disorders with which rheumatism is allied—particularly with pleurisy and pneumonia. It has also been noticed in connexion with endocarditis, or other cardiac affection.

“Lastly. It is successfully treated by colchicum and the alkaline salts, and yields also to a plan of treatment—I mean the use of bark—which was long extensively and successfully employed in the treatment of rheumatism, and still has its advocates among the best informed physicians of the day.”

The views of Dr. Begbie, on this subject, have been advocated by many physicians in this country and on the Continent; and may now be considered as accepted facts.

On “*Anæmia and its Consequences, Enlargement of the Thyroid Gland and Eye-balls,*” is a memoir which deserves a careful perusal albeit we cannot altogether agree in the author's views as to the nature of this most interesting affection. No where has the disease attracted more attention than in Dublin, for proof of which we may point to the pages of this Journal, where may be found important contributions to the literature of the subject. If recent writers were so well informed as to the history of this disease, as Dr. Begbie is, we should not find them claiming exclusive credit for one who would himself be surprised if he could know of his posthumous fame.

It appears that Dr. Begbie, in ignorance of Dr. Parry's observations, and of the cases reported by Marsh and Graves, had observed some examples of the triple disease—the cardiac affection, with enlargement of the thyroid gland and protrusion of the eye-balls—a disease which was new to him, and which he believed to be undescribed.

He has now collected together all that is known on the subject, and he has traced its history from the earliest notice of the disease down to the latest observations.

We find that Flajani noticed the enlargement of the thyroid

gland, and the disorder of the heart's action, but Dr. Parry was the *first* who observed the assemblage of symptoms which characterize the disease. His first case dates back to 1786. To Parry, then, belongs the credit of the discovery. For a long period no attention seems to have been directed to the subject, that is to say the triple affection, although the protrusion of the eyes had been noticed by Demours, in 1821. Dr. Begbie refers to Dr. Graves' clinical lecture in 1835, in which he describes the disease "in ignorance of Dr. Parry's and subsequent observations." Soon after Sir Henry Marsh communicated cases to the Pathological Society, and was the first who recorded the morbid appearances observed after death in this remarkable disease. In one of Dr. Begbie's cases, that of a male, he says:—"It is more particularly interesting as affording an opportunity of examining the morbid appearances after death, the only accounts of which that have as yet appeared being those communicated to the Pathological Society of Dublin by Sir Henry Marsh and by Basedow in Germany."

The German author, Basedow, proposed a new name (*glotzaugencachexie*), and from his having accurately described the disease it was suggested to honour him by associating his name with it; but our author observes, "The still earlier description by Parry, Graves, Marsh, Stokes, and others, renders this inadmissible."

Dr. Begbie next refers to the writings of Schoch, von Graefe, Trousseau, and to the memoir of Withusen, "translated by an accomplished Physician of Dublin, Dr. W. D. Moore;" and having borne testimony to the value of the important contributions of Marsh, Graves, and Stokes, he says:—"In Ireland there have more recently appeared several valuable observations, particularly from Dr. Banks, and the late lamented Dr. Bellingham."

Referring to the theory which explains the condition of the eye by congestion and increased secretion of the humours—a true hydrophthalmia—a theory which he originally held, and a belief in which he shared with other writers on the subject, viz., Mackenzie, Stokes, &c., he now feels constrained by the weight of authority to abandon, and he adopts that of Mr. Haynes Walton, which accounts for the protrusion of the eye by the congested state of the deep-seated veins of the orbit. In only one of the recorded cases has any serious impairment of vision been noted; in all the cases we have ourselves observed the vision was unaffected.

Dr. Begbie, as we observed, on investigating the subject found that the exophthalmic cachexia was described before him, but he has

arrived at conclusions relative to its etiology which had not been previously advanced. They are as follows:—

“1st. That the essence of the disease consists in a vitiated or impoverished condition of the blood—a true anemia.

“2nd. That this abnormal condition, this attenuated quality of the blood, acting directly on the cardiac nerves, through the rapidity with which it circulates, excites the heart and vessels to over action.

“3rd. That the anemic palpitation thus produced is, after a longer or shorter time, followed by turgescence of the vessels of the head and neck, and by enlargement of the thyroid gland and protrusion of the eye-balls.

“4th. That these phenomena are subject to remarkable variations as to intensity, according to the state of the heart's action.

“5th. That the acoustic signs in the heart, in the vessels of the neck, and in the thyroid gland, are those of anemia, and cannot be referred to any other morbid condition with which we are acquainted.

“6th. That the circumstances of the disturbances of the circulation, the turgescence of the thyroid gland, and the protrusion of the eye-balls, are all capable of mitigation and removal, by means calculated to improve the quality of the blood.

“7th. That the condition of the vascular system, if not removed, issues in organic change, in hypertrophy, dilatation of the chambers of the heart, in enlargement of the great vessels, in induration and structural degeneration of the thyroid gland, and in disorders of vision, and partial or complete loss of sight.”

We agree with Dr. Begbie in some of the conclusions he has arrived at, and from others we dissent. We know from observation that the disease may exist without organic cardiac lesion, and we have long considered that this affection, so far as the heart is concerned, may be associated with mere functional derangement, or with profound organic change. In some of the cases recorded by Sir Henry Marsh there was no abnormal sound, and he had no reason to believe that there was any organic disease of the heart. In such cases he found, as we have also experienced, much benefit from a combination of feruginous and sedative remedies. That anemia exists in a considerable number of the cases we are free to admit; in point of fact Dr. Begbie states that he has seen no instance of the disease in which the general and physical signs of anemia were not more or less completely developed. Fully aware of the influences which depraved blood exercises in the production of disease of various forms, we fail at arriving at the conclusion that spanemia alone is sufficient to account for the phenomena. There is

something more in those cases which are associated with splæmia than the signs with which the physician is familiar, as indicative of the latter condition; moreover, we can corroborate the statement of Withusen and others that the disease presents itself in persons who so far from being anemic were plethoric, and abounded in good red blood.

We are then to seek for something beyond mere anemia as constituting the "fons et origo" of these obscure affections.

On Dyspepsia and Nervous Disorders in connexion with the Oxalic Diathesis, is the next essay of Dr. Begbie's series. He depicts with much truth and power the evils which flow from the oxalic diathesis, having pointed out the signs by which it may be readily recognized. The persons who belong to this class suffer from dyspepsia, which may be either of a mild or a most severe character, but often the symptoms are not confined to the digestive organs, but implicate the nervous system, even imperilling the mental faculties. The importance of early detecting the presence of the diathesis, and resorting to appropriate treatment is dwelt upon. Cases are given which illustrate the usual course of the disease and the effect of well-directed remedial measures. The essay thus concludes:—

"The truth of the ancient adage, that the knowledge of a disease is half its cure, is more than confirmed in the diagnosis of the oxalic diathesis; for as certainly as we discover the persistent presence of the characteristic crystals in the urine so certainly do we possess the means of cure in appropriate diet and suitable remedies, unless where long neglect of functional derangement has led to incurable organic disease." He points to the cases he has detailed in confirmation of his statement, and as "affording encouragement to all who are subjected to the vexations and disappointment inseparably connected with the management of the chronic dyspeptic and hypochondriac."

The Memoir on Fatty Degeneration of the Heart is particularly interesting from the fact that it contains the history of the last illness of a distinguished member of our profession who has himself done so much to extend the knowledge of disease.

Dr. Begbie tells us that three years before his death, Dr. Abercrombie had a sudden seizure, with loss of power and impaired sensation over the left side, but without the loss of consciousness, or any affection of speech. The medical man who was called in found him complaining of precordial uneasiness, with slight headache, frequent sighing, cold skin, and pallid countenance.

On this occasion blood was taken both from the temple and arm to a large extent, and active purging resorted to. These active and most unsuitable measures were adopted, Dr. Begbie tells us, by the patients own orders, but it did not occur to any of his advisers to connect the symptoms with the state of the heart. The subsequent feebleness of the circulation might be accounted for by the severity of the treatment which he had subjected himself to. From this attack Dr. Abercrombie was supposed to have quite recovered, but Dr. Alison remarked that he was breathless on ascending stairs a few days before his death, which took place at the expiration of three years from the date of his seizure. In the interval he had no threatening of similar symptoms, and his mental powers were even as vigorous as at any period of his life. His death was very sudden; he had breakfasted with appetite, and appeared to be in his usual health. Soon after he was found dead in the water-closet. An examination of the body, which was conducted by Mr. Goodsir, revealed the cause of death to have been fatty degeneration of the heart. It may be that good diet, and a liberal allowance of wine, instead of the "spare diet," might have added years to a life which was so valuable.

Erysipelas.—In the observations on erysipelas, Dr. Begbie strongly recommends the muriated tincture of iron, which was introduced by Mr. Bell. In addition to the cases which he relates, he tells us he has employed it on several other occasions with marked benefit and success. In some cases it has been administered with the most satisfactory results, when the swelling of the face was great, the fever high, the tongue loaded, with restless anxiety and severe headache, and tendency to somnolence. In scarlatina Dr. Begbie tells us it may be administered when the skin is hot and dry, pulse rapid, and urine scanty and bloody, its effect appearing to be to lower the pulse, to relax the skin, and to promote the secretion of urine; and our author remarks that as iron has proved so useful in erysipelas itself, it may not be found unavailing as a resource in those puerperal disorders, hitherto irremediable, with which that disease is in some mysterious manner so intimately associated.

From having for some time employed muriate tincture of iron very extensively in erysipelas and scarlatina, we can add our testimony in its favour to that of Dr. Begbie.

On Diphtheria and its Sequels.—In Dr. Begbie's notice he gives us his impressions of the disease as it fell under his own observation.

He first observed the disease in 1826, and the cases which he has lately observed differed in no essential character from those which he had formerly seen. The conclusions of the author as to the disease are thus summed up:—

“1st. That it is a constitutional disease having the character of fever, running a definite course, and bearing a closer affinity to scarlatina and typhoid fever than to any other specific disease.

“2nd. That its local manifestation is chiefly observed on the mucous membrane of the mouth and throat; the tonsils, uvula, and palate, with the pharynx, being first affected, but that it has a tendency to spread to the adjoining passages, and is particularly prone to invade the larynx.

“3rd. That this local disease is of the nature of inflammation of asthenic character, with exudation of lymph in the form of pellicle.

“4th. That the disease is contagious, and that youth and consanguinity powerfully predispose to it.

“5th. That it is fatal from the severity of the general disease, or from the exudative inflammation invading the larynx, and causing suffocation, or that death may result from the nervous disorder supervening in the form of paralysis.

“And lastly, as we have no specific remedy for diphtheria, the disease and its sequels must be treated on the general principles which regulate our practice in fever, and in inflammation, and in nervous disorders of asthenic character.”

Arsenic, its Physiological and Therapeutical Effects.—Dr. Begbie in a former communication, has spoken in high terms of the therapeutic powers of arsenic, and after the lapse of years the favourable judgment he has pronounced has been fully borne out. That it is an agent powerful in some of the most intractable diseases will be admitted by all who have had much experience in its employment.

Dr. Begbie's object is not to enter on the history of arsenic in all its applications to disease, but to confine himself to practical observations on its internal administration in medicinal doses, so as to illustrate the properties of the drug as an ante-periodic and febrifuge, a tonic and powerful alterative. The preparations he has generally employed are Fowler's solution and the arsenious acid; the latter he prefers in affections of the bowels and in uterine disease.

Dr. Begbie cautions us against abandoning the use of arsenic on the first manifestation of its exercising its physiological action on the system—a practice which we know is very prevalent. The medicine should be administered at longer intervals, or in diminished

doses, and thus its curative operation may be secured. The effects of arsenic, in moderate doses (five drops of Fowler's solution), differ as to the period when they show themselves. Dr. Begbie has observed them, generally, in eight or ten days, which is rather earlier than we have noticed the physiological action. With some of the effects produced by the continued use of arsenic most medical men are familiar, but there is one to which Dr. Begbie has been the first to direct attention, viz., a peculiar condition of the tongue, which closely resembles the silvery coating produced by the application of a solution of nitrate of silver.

A copious secretion of urine, often with an abundant deposit of lithates, is observed, in some cases, to accompany the earliest signs of the operation of the mineral. In alluding to the minute papular rash with fine scales occasionally found on the skin, and which causes the surface to assume a dingy brownish hue, he states that he cannot verify the observations of Mr. Hunt, namely, that when the dose of arsenic is diminished, on the occurrence of conjunctivitis, the eye-lids may be allowed to get well; but if the brown state of the skin be kept up the disease will disappear just as rapidly as if the action on the conjunctiva be maintained.

In remarking upon the extraordinary power of arsenic in improving the general health, and imparting vigour to the frame, he says:—The somewhat fabulous experience of the Styrian peasant may be realized; and the increased power of limb, noticed by Trousseau and others, may be actually acquired. The contraction of the extensor muscles of the legs, noticed by Valleix as an effect of the continual use of arsenic, has not been observed by the author. The production of the physiological phenomena of arsenic are not always necessary to insure its therapeutic action; but Dr. Begbie has never seen the agent exhibiting its curative power over severe forms of disease unless when the eye and tongue had presented, and that for weeks together, the proofs that the system had been brought under its influence. Dr. Begbie warns us that the use of arsenic requires much caution; there are persons who cannot bear it, even in small doses—nausea and nervous depression being the inevitable consequences of its administration. The presence of fever, plethora, and an irritable state of the gastro-intestinal membrane, are not, in Dr. Begbie's opinion, contra-indications to the use of arsenic. From the intimate sympathy which exists between the skin and the mucous membrane we might reasonably expect that remedial agents which have a specific action on the skin, would be likely to have a similar

action on the mucous membrane, and experience proves that such is the case. Dr. Simpson, of Edinburgh, has found that in affections of the bowels, in which a process of desquamation takes place, the treatment most efficacious is that which is known to be effectual in diseases of the skin—the arsenite of potash (sixtieth of a grain three or four times a-day). The failure of arsenic, in some cases of disease in which it is administered, Dr. Begbie considers, is sometimes due to a taint of syphilis, or mercury, or gout, or some other poison in the system. Supplemented by mercury, or quinine, or iodine, or colchicum the wished-for end has been attained.

An aggravation of the eruption is often observed coterminously with the first sign of the physiological action of arsenic; and so far from inducing the physician to give up the remedy should encourage him to persist in its employment. In various forms of uterine disease the obstetric physician finds arsenic a remedy of great value. M. Boudin, Physician-General of the French Army in Algeria, found that arsenic cured some forms of periodic fevers—particularly when complicated with chronic enlargement of the abdominal viscera—which were not amenable to quinine. In bronchitis and hay fever, especially when associated with skin affections, arsenic has been found useful by Dr. Begbie. In blood diseases particularly arsenic has been found to exercise a powerful influence. Dr. Begbie records many cases of cutaneous affections, of rheumatic disease, of chorea, of periodic headache, of *tic-doloureux* associated with uterine derangements, &c., &c., which well illustrate the effects of judiciously-conducted treatment by arsenic, and fully confirm the high opinion entertained by many practical physicians of its great value as a therapeutic agent.

We consider that Dr. Begbie has done much good in bringing under the notice of the profession his experience on this subject; and we trust that many who are afraid of arsenic may be induced to try it, not merely in diseases of the skin and cognate affections, but in other disorders in which its character has not hitherto been established as the result of such wide-spread experience.

The last paper in Dr. Begbie's volume is a communication of much interest, "On the Sedative Powers of *Datura Stramonium*." It is chiefly in the form of inhalation that stramonium has been used; but Dr. Begbie has found, in many cases, the extract of the seeds, in doses of a quarter of a grain, every third hour, increased to half a grain, exhibit active narcotic properties and afford relief when other remedies of the same class had failed. The cases in which it has

been found useful are such as indicate a narcotic combined with an anti-spasmodic action. In the paroxysms of dysmenorrhea, in hysteria, tic-doloureux, tetanus; in the dyspnea of phthisis and emphysema its efficiency has been tested. In cases of neuralgia, which unfortunately are by no means rare, in which quinine, iron, zinc, arsenic, iodine, &c., &c., have failed to alleviate pain, Dr. Begbie tells us stramonium will occasionally be found applicable; and though it may not, and cannot, always cure, it will sometimes afford a wonderful measure of relief.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.*

DR. MAYNE, President.

Acute Necrosis.—DR. M'DOWEL exhibited a specimen of acute necrosis of the humerus taken from the body of a girl of ten years of age, who had been admitted into the Hardwicke Hospital, labouring under a high degree of fever of three or four days duration. The pain was intense, and the entire limb swollen to a great degree; the skin was red and shining, and vesicles round the elbow joint gave it the appearance of phlegmonous erysipelas. A few days before admission the child had been attacked with violent pain in the region of the shoulder, became delirious, and was continually screaming. On careful examination, fluctuation was detected under the deltoid muscle, an incision through which, down to the bone, gave exit to an immense accumulation of purulent matter, which entirely surrounded the shaft of the bone, and the flow of which was increased by pressure in the axilla. The case then proceeded favourably for some time, the tumefaction subsided, the vesicles disappeared, and the hard tense feeling of the limb vanished; but before the expiration of a week a change occurred; the pulse rose to 140, and a rose-coloured rash made its appearance (very much resembling that of scarlatina) over the entire body, but there was no soreness of the throat, nor any of the redness of the fauces usually seen in scarlatina. The child ceased to complain of pain, a stupor came over her, a low fever, with muttering delirium set in, and she died in a few days; the rash fading shortly before death.

* These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

Upon examination the humerus was found deprived of periosteum throughout nearly its entire extent, and surrounded by purulent matter. Its upper epiphysis was detached, but the scapulo-humeral articulation was healthy in all respects. In the elbow joint was found synovitis, with absorption of cartilage. Here and there the humerus was of a bright pink colour; but by far the greater portion of it was of a dull white colour, and utterly devoid of vascularity, presenting a good example of acute osteitis terminating in necrosis.

In cases such as this, where the inflammation extended from one extremity of the bone to the other, from anatomical considerations, it was to be expected that, while the shoulder joint escaped implication, the articulation of the elbow should be involved in the disease, the junction of the lower epiphysis, with the shaft, being below the line of the synovial membrane; such, however, was not the case with the superior epiphysis, the junction of which, with the shaft of the bone was external to the capsular ligament.

With respect to the cutaneous eruption it certainly was not to be considered as that of genuine scarlatina. It was exceedingly like that which occurred in puerperal women, and which was so very fatal, and of which there had been a great number of cases in the hospital; but the majority were unaccompanied by soreness of the throat. In the present case the eruption was not that of genuine scarlatina, but rather an erythematous rash, perhaps of an analogous nature, but not liable, like scarlatina, to be propagated by the vicinity of a diseased person. Dr. McDowel alluded to the memoirs published by his father, in the third and fourth volumes of the *Dublin Medical Journal*, on periostitis complicated with synovitis, in which he mentioned the occurrence of vesicles on the affected limbs, and an erythematous rash over the body resembling that noticed in the present case.—*February 13, 1864.*

Croup.—DR. MAYNE laid before the society the respiratory organs of a child, aged one year and a-half, who had been brought by its mother to the Adelaide Hospital, on the morning of the 8th of the present month, having some time previously suffered from a slight febrile disturbance and an eruption on the skin; the child went through the disease quietly (whatever may have been its nature), but as the eruption was declining, began to cough, and soon became hoarse, and on Sunday night was so extremely restless, being kept awake by cough and wheezing, that the mother, now becoming alarmed, brought it to the hospital in the morning. The rash on the skin seemed to have been varicella, some spots being still apparent in the stage of desiccation. The countenance was good, and did not indicate much depression, but the breathing was croupy and hoarse on coughing; the inspiration being long drawn and sonorous. The first question which arose was whether the disease was genuine

croup or diphtherial croup. The fever was scarcely of so inflammatory a type as to warrant the supposition of its being genuine croup; the skin was not intensely hot; the pulse was 110; the tonsils, seen with difficulty, were enlarged and inflamed; but there was no appearance very characteristic of diphtheria. Next day the child was worse, the respiration more croupy, the pulse accelerated, the inspiratory muscles strained to the utmost, and the voice nearly extinct; the fever had assumed a more asthenic type; and on looking into the throat an exudation was seen on one of the tonsils, but rather a muco-purulent secretion than a tough diphtherial exudation.

On the third day (Wednesday) matters were still worse, and the question of tracheotomy was anxiously considered in the evening. The result was a unanimous decision against the operation, and on the following grounds:—Auscultation showed that, although the left lung was tolerably well filled in respiration, the opposite lung was very nearly silent. Hence it was concluded that the disease was not limited to the trachea alone. It is difficult to arrive at a correct diagnosis in the case of an infant; but the defective respiration of one lung and the comparative clearness of the other was manifest to all. The child died during the night.

On slitting up the trachea there was found a copious secretion resembling a mixture of purulent matter and lymph, which extended into the right bronchus. The subjacent mucous membrane exhibited the most intense vascularity. The left bronchus was free from any morbid effusions, but its lining membrane was congested. The right lung was in a state of *splenization*; but there was this peculiarity, that healthy lobules existed in the immediate vicinity of diseased ones, the line of demarcation between them remaining perfectly distinct. The primary and secondary divisions of the right bronchus were filled with the same kind of secretion as that already mentioned as existing in the trachea.

The result of this case tends to confirm the wisdom of the rule of practice so long adopted by the operating surgeons of Dublin, to be very slow in recommending the operation of tracheotomy for the cure of croup. Whether the case be considered as one of the diphtherial type or of the old form of croup, in neither case could it have been performed with any chance of a successful result.—*February 13, 1864.*

Calcareous Deposit Surrounding the Origin of the Aorta.—DR. CORRIGAN said the preparation which he was about to lay before the society had some points of interest. It was a case of permanent patency of the aortic valves, in which there was no disease of the valves themselves beyond a slight contraction, so that the disease, as far as the valves were concerned, was of comparatively little consequence—that is, the man might have lived for a great many years with it, as the patient in this

case had. There was, however, a bony deposit which went completely round the aorta above the valves, forming a continuous rim with osseous plates projecting into the vessel. The first point of interest was the existence of a trumpet bruit audible, without the stethoscope, at the distance of a foot and a-half from the man's chest. That was a very remarkable phenomenon.

Many years since a case of the kind first came under his observation; and on the *post mortem* examination of that case there was found a bony rim round the aorta. It was not only larger than this in extent but it formed a perfect tube of bone, so that when cut out it retained its form as an osseous circle.

Another remarkable case of the trumpet bruit was brought forward at this society by Dr. Banks; but in it there was a double trumpet bruit, a distinct brazen sound, similar to that produced by a trumpet, not only an ascending trumpet sound through the aorta, but also, when the blood was returning through the valves into the ventricles there was another observable; so that for every sixty beats of the ventricle there were 120 trumpet sounds. In the present instance there was only a single trumpet sound consequent on the contraction of the ventricle, the returning blood causing no trumpet sound, not having sufficient force and quantity to produce it. They might venture, then, to consider that trumpet sound as an absolute diagnostic sign of bony deposit in the aorta, either of a rim of bone, as in this case, or a projection, or tongue of bone, as in Dr. Banks' case. These sounds seemed to be produced on the same principle as the sounds that are produced in a common harmonium, in which the tongue of steel is thrown into vibration by a current of air, whilst in the case under consideration it was not the air that threw the tongue of bone into motion, but the blood. The trumpet sound is different from the musical *bruit de soufflet* observed in chlorotic females. It is difficult, or indeed impossible, to convey by words the distinction between the sounds; but there is this distinguishing character easily recognized. The trumpet sound is invariably synchronous with the action of the ventricles or the descending current. It occurs only when the blood is in rapid motion, when a bony tube or tongue of bone is kept in vibration by the action of the ascending or descending blood. The musical bruit of chlorotic cases is never heard at a distance from the patient. It is not carried through the circumambient air; whereas in the case before them, it was heard as mentioned at a distance from the patient. It might not, however, even in similar cases, be so loud as to be heard at a very short distance; but there were other signs of distinction. In the musical *bruit de soufflet*, or *bruit de diable*, as it was sometimes called, the motion of blood in the jugular vein in which the sound is produced has no relation to the action of the ventricle. It is a continuous sound, or it swells, decreases, and disappears, but has no synchronism with the

action of the ventricle; and it can always be stopped by pressing the thumb lightly over the jugular vein above the stethoscope, so as not to interfere with the action of the blood in the carotid. He thought they might go so far as to say that the trumpet sound was diagnostic of the deposit of bone, and of bone thrown into vibration.

A question of interest then arose. Did the existence of that sound indicate that life would be more shortened by the disease of patency than where it did not exist? He did not consider it did; for in these and other cases in which the sound had been observed, the persons had lived for a great number of years. The next point of interest in the case was the length of time during which permanent patency might exist and not interfere with the patient's pursuits. In this present case, the man, who had been a lamp-lighter—an occupation requiring a great deal of muscular exertion—was twenty-eight years of age when admitted into hospital. He had had rheumatic fever when he was twenty years old, and they might conclude that the heart disease commenced then, for it was a common result of rheumatic fever. But, notwithstanding the permanent patency he continued his work until four or five days ago, when he was exposed to inclement weather and very hard work during the night. He came into hospital labouring under an attack of pulmonary apoplexy, of which he died, throwing up large quantities of blood. The last and most interesting point is that tolerably active pursuits, a fair amount of nourishment, and abstaining from any treatment calculated to depress the muscular parietes of the ventricles, afforded persons suffering from the disease the greatest prospect of a long life; and lastly, it showed that a man labouring under it might continue to carry on his ordinary avocations without being much troubled by the disease. This man had had the disease for eight years.—*February 20, 1864.*

Ulceration of the Intestines.—DR. MAYNE observed that the specimens to which he was desirous of calling the attention of the society were illustrative of typhoid fever, and of interest, as showing that in its earlier stages the disease was apt to run rather an insidious course—that the symptoms at first might not be very defined or well marked, that danger might be impending all the time, and that finally, when the alarming symptoms set in, the disease might rapidly run a fatal course.

The patient was a man, aged twenty-one, and had generally enjoyed excellent health. On Monday, 8th, while working in a vitriol manufactory, he was suddenly seized with a very severe rigor, followed by headache, vomiting, and diarrhea, and retired early to bed. On Tuesday he did not appear to have any marked symptoms, but was unable to resume his usual work. On Thursday he procured admission into the Adelaide Hospital, and I saw him on Friday, the fifth day of his illness. The usual symptoms of mild fever were present, but there was as yet nothing

very striking in the case. He had been restless, and had not slept during the night. He merely complained of headache; his pulse was about ninety, and the skin not very hot. He had some diarrhea, and the alvine discharges were of an ochreous character, fluid, and without any tinge of blood. He had been coughing a little in the morning, and bronchial râles were heard here and there. The abdomen was slightly swollen and tympanitic, but there was no pain on pressure, nor gurgling. There was no trace of any rash on the skin. On Saturday, the sixth day of his illness, it was reported that he was better; he had slept during the previous night, had less headache, and expressed himself as about to get well; there was less tympany, and the stools were neither so copious nor so frequent as they had been.

On Sunday evening, however, he was attacked with intense pain in the lower part of the abdomen, the seizure having been immediately preceded by a short but severe rigor; he was also suffering from great irritability of the bladder, being constantly desirous of passing water. A catheter was introduced, and a large quantity of urine drawn off, but without affording the patient any relief. Upon the following morning there was a great change in his appearance; he had the sharp, pinched countenance of a man suffering mortal agony; his knees were drawn up, the abdomen tympanitic to a great degree, and altogether intolerant even of gentle pressure; he was vomiting, and had all the appearance of peritonitis, the result of perforation. He died during the night.

Autopsy.—There was no escape of gas when the abdomen was laid open; but a copious stream of serum issued forth, mixed with flakes of lymph; when this had all escaped the most intense peritonitis became visible, the intestines being glued together by large quantities of coagulable lymph. The anterior surface of the intestines presented numerous discoloured patches, some of a pink colour, others of a purple hue; and in some of the latter the intestines seemed thin and as if about to give way; but no perforation could be discovered. The duodenum and jejunum were comparatively healthy; but the ileum presented the well-marked ulcers generally present in typhoid fever. In the upper portion of the intestine they were few in number and of small size, some of them bearing a strong resemblance to a chancre. Proceeding downwards they became more numerous and of larger size. It was remarkable, that, although the disease ran its course in eight or nine days, the ulcers had gone through all their stages, sloughs having been detached from some of them; but no where had even the most minute perforation taken place, but in the situation of some of the ulcers the intestine was like a piece of silver paper, and quite transparent. The mesenteric glands connected with the small intestines were very much enlarged.

Dr. Mayne observed, in conclusion, that on looking into the works of various authors he did not find any case recorded in which fatal

peritonitis had set in so suddenly as in the present instance, independent of perforation. However, it was not difficult to understand how, in cases where the ulcer had penetrated so deeply as to lay bare the peritoneal tissue of the intestines, the inflammation might be propagated to a contiguous surface so as to set up a fatal peritonitis.—*February 20, 1864.*

Cancer of the Liver.—DR. STOKES, at the request of Mr. O'Ferrall, exhibited a specimen of cancerous tubercles of the liver, taken from the body of a female, aged sixty-one, who had been lately admitted into St. Vincent's Hospital. She was deeply jaundiced, had a stupid expression of countenance, and a great inclination to sleep. The liver was enlarged, hard, and tuberculated, and extended across the left hypochondriac region. She had also ascites. The tendency to coma gradually increased until her death, which occurred just five weeks after her admission.

The *post mortem* appearances were the following:—The liver contained numerous cancerous tubercles (Farre's); and a section of it showed great biliary congestion; the branches of the hepatic duct were compressed by the tubercles. There were numerous enlarged glands along the concave margin of the stomach. The gall-bladder was distended with dark viscid bile, but there were no calculi. The ductus communis was nearly half an inch in diameter, but close to its entrance into the duodenum it was contracted and surrounded by enlarged muciparous glands. The cystic duct was unusually large.

Dr. Stokes observed that the case illustrated two of the many causes of jaundice, namely, obstruction by pressure of tubercles on certain branches of the hepatic duct, causing retention of bile in that portion of the liver to which they belonged; and secondly, obstruction of the common duct owing to contraction of this tube at its entrance into the duodenum, which would not admit of the passage of a probe. The presence of Farre's tubercles in this case (as in many others formerly brought before the society) did not appear to be the cause of the retention of the bile, except at the points where individual tubercles compressed certain branches of the hepatic ducts.

The morbid deposit surrounding the orifice of the ductus communis reminded him of a case of jaundice occurring in a gentleman who had been some time ago under his care. He had from between the commencement of his illness and his decease (a period of about a year and a-half) nearly thirty attacks of the following nature:—First, his skin became intolerably itchy; then followed a very severe rigor, succeeded by a hot stage, but no sweating, and then complete and universal jaundice; and as soon as this appeared, the patient recovered his feeling of comfort and was able to resume his ordinary avocations. Then the

jaundice would gradually disappear, and another attack of a similar nature would come on after a short time.

Upon examination after death the liver was found to be quite healthy; but a circle of cancerous deposit surrounded and compressed the orifice of the common biliary duct. A very careful examination failed to detect any other diseased condition.

In the case before the society there had not been pain; and, it was not unimportant to remark, that in a large number of visceral cancers (especially those of the lung and liver), there was either an absence of pain, or, if present, it was so slight as to have nothing characteristic about it. So also with respect to jaundice; it was well known that a very extensive deposition of cancer might take place in the liver without the occurrence of jaundice, and it was probable that, when it did occur, it was to be attributed to a mechanical cause. In Mr. O'Ferrall's case the enlargement of the liver had a double mechanical origin, namely, the extensive deposit of cancerous tubercles and the distention of the biliary ducts, a cause of enlargement of this viscus first observed by Mr. Stanley of London.

In illustration of this he might mention the case of a woman who had been not long since brought into the Meath Hospital suffering from jaundice which was unaccompanied by fever, pain, or hepatic enlargement. It appeared at first to be an ordinary case of jaundice from duodenal irritation; the woman remained in this condition for several weeks, but a few days before her death the liver rapidly tumefied. It was found, upon examination, that the common duct had become completely obstructed by large biliary calculi, and the divisions of the hepatic ducts were dilated into pouches, from which, when punctured, bile spouted out.—*February 20, 1864.*

Gammarus Pulex.—DR. BANON exhibited several specimens of the gammarus pulex, or fresh-water shrimp, which had passed from the bowels of a female lunatic, who had been in a partially paralysed state for several months. After having taken a draught of castor oil and turpentine, she voided the specimens in question; the nurse found them in the discharges upon two occasions, upon each of which the occurrence followed the administration of turpentine. They were, when voided, alive and active. They are very common in pipe water, are carnivorous, feeding principally on dead fish, and often on each other. According to Professor Zenker, they undergo no metamorphosis, and are capable of being kept alive in water, even when not exposed to the air. It might be a question whether they had been taken into the system in the grown state or whether their ova or larvæ were generated in the body. He put some of them into water containing a few drops of muriatic acid and they died at once. This would lead to the supposition that the gastric

juice in the stomach would prove fatal to them, and that the ova were generated in the system, but that it is known that the gastric juice will not act in the stomach in destroying living creatures or tissues, as weak mineral acid mixtures will outside the organ.

There were several remarkable cases on record in which insects of various kinds were passed from the bowels. Dr. Pickels recorded one in the fifth volume of the Transactions of the Provincial Association, in which the patient passed several thousand insects, particularly of the beetle tribe, continuing to do so for several months. In that instance a number of the larvæ were passed. Dr. Banon, in conclusion, stated that Mr. M'Alister, to whom he was indebted for much information on the subject, had shown him numerous specimens of the *gammarus pulex* found in water taken from the fountain erected lately to the memory of Sir Philip Crampton.—*February 27, 1864.*

Ascaris Lumbricoides.—DR. LAW presented a specimen of *ascaris lumbricoides*, about a foot in length, and apparently full of ova, passed by the mouth by a female, aged twenty-two, while labouring under typhus fever. She had been in attendance on her mother who died of fever in the Isle of Man. She had a bad passage to Liverpool upon leaving the Isle of Man, and an equally severe one from Liverpool to Dublin. On landing she was brought to Sir Patrick Dun's Hospital, labouring under typhus fever. Her prostration was such as to require an unusually large amount of stimulants. The most remarkable feature in her case was the subsultus tendinum which was so severe as almost to prevent the pulse being felt.

There was but little change in the symptoms until the seventeenth day, when diarrhea set in, and she fell into a deep stupor. In the evening of that day she had a violent attack of coughing, and the nurse, supposing that she was choking from a collection of mucus in the mouth and throat, came to her relief, and drew out of her mouth the worm now exhibited. Upon the following day she was visibly improved; she seemed as if she had awoke out of a deep sleep. It appeared as if she had had a crisis—at least what would formerly have been regarded as such. There was certainly something like a *perturbatio critica*, an aggravation of the symptoms, and then the patient began to amend. In similar cases of typhus fever, recently under his care, there had been undoubted evidence of crisis, although less distinct than he had formerly seen. In reference to the share the expulsion of the worm had in the improvement, he should only say that the subsultus tendinum ceased when it was removed. This symptom might fairly be attributed to the irritation of the lumbricus, just as the presence of worms in the intestines of children produce convulsions. As to how much of the improvement was to be ascribed to the operation of a blister which he

had directed to be applied to the vertex, he had too much experience of its value, when thus used, in recovering from coma and stupor in fever, not to allow it its share in the result. The woman had a rapid convalescence.

Dr. Law observed that no subject had perplexed the physiologist, the pathologist, and the naturalist, more than that of entozoa, as to their origin, their propagation, and ultimate destination. From their being destitute of reproductive organs, and their being found in situations where ova could not have been introduced *ab extra*, no other theory than that of equivocal generation seemed competent to explain their origin. Von Siebold, of Munich, from observations and experiments, discovered in the habits of these animals certain propensities which explained much of what before seemed embarrassing. He ascribed to them migrating, emigrating, and immigrating propensities; the first showing itself in their moving from place to place in the same individual, and thus often making their way into very inconvenient situations. The late Dr. Power had exhibited before the society a large number of lumbrici in the hepatic ducts; and Dr. Law had shown one that escaped through an ulcer in the groin where an ileo-cæcal abscess had opened. Andral has recorded a case where one of these entozoa, getting into the trachea, caused death by suffocation. It can easily be imagined that the specimen now exhibited was either *en route* towards, or had already made some way into, the trachea, from which it was expelled by coughing.

With regard to their emigrating propensity, they were observed to leave the animal in which they were produced and to make their way into other animals, where they underwent a further development, and finally attained to maturity and the capacity of reproduction. They seemed to possess an instinct which guided them to the animals suited to their sojourn for this ulterior development. Dr. Law thought that this instinct was shown in their making their way into the higher animal when it was reduced by disease, and while the system remains in this depressed state so long, to use the expression of De Filippi—“*gli ospitanti ed ospitati vivono in perfetta armonia, gli uni non disturbano il negoziare procedimento delle favi vitali negli altri.*” The Danish naturalist, Steenstrup, contributed much towards reducing the facts collected on this subject to some degree of order by the discovery of the law which he designated, “alternation of generations,” and which may thus be described—that an animal bearing young which are, and remain dissimilar to their parent, but bring forth a new generation whose members, either themselves or in their descendants, return to the form of the original parent. The discovery of this law meets many of the most perplexing points connected with these animals. Thus the parent produces an offspring designated a nurse, or agamozoid, which brings forth young without itself possessing any sexual organs. The labours of von Siebold and Steenstrup have

accounted for much that appeared to admit of no explanation, except what a questionable theory, viz., that of equivocal generation, afforded.—*February 27, 1864.*

Cataract.—PROFESSOR HAUGHTON exhibited the eyes of a seal that was lately living in the Zoological Gardens. He said that on last Monday fortnight (February 8th), the seal was attacked by some boys with brickbats, and received injuries from them, in consequence of which he died in fifteen days afterwards. The immediate cause of death was starvation. He refused food after receiving the blow, and no inducement could persuade him to eat. A few days after the receipt of the injury the vision of one eye was observed to begin to get impaired, and before he died he was completely blind of the right eye. In that eye cataract was to be seen; the lens was quite opaque, and also somewhat discoloured; there was also a small circle of pink round the margin of the cornea. The blow which killed the animal was on the right side of the mouth, and was so violent that it broke the large canine tooth on that side and seriously injured the mass of nerves that supplied the papillæ of the hairs on the mouth of the animal. The discolouration of the lens was, perhaps, the result of direct violence, and the cataract might be attributed to the inflammation that was set up after the injury.—*February 27, 1864.*

Laceration of the Lungs.—DR. ROBERT M'DONNELL brought the following case under the notice of the Society:—

A young man, named Patrick Mooney, aged twenty-four, was admitted into Jervis-street Hospital on the evening of the 15th of February; Dr. M'Donnell happening to be at the hospital saw him at the time of his admission, and learned from him the particulars of his case. Two hours before, while loading a cart with manure, the horse started, he was knocked down, and the wheel passed across his body; appearing seriously injured, he was conveyed on a cart a distance of four miles to the hospital. On admission he was not in a state of such extreme collapse as to warrant the supposition that there was an extensive rupture of any internal organ; the pulse, although rapid, was easily counted, the surface warm, countenance anxious, respiration short; he chiefly complained of "his belly" as the seat of injury, and the region of the liver appeared to be the most tender part. There was no evidence of fractured rib, no hemoptysis; he passed water freely, of natural colour; his spine was uninjured. On proceeding to examine his chest, he smiled at the idea, as though he felt there was nothing wrong there, and putting his hand on the epigastrium said, "Oh, my belly, it is my belly." Respiration was audible in both lungs at this time. On the following day his pulse was ninety, and full; he had quite rallied from the condition of collapse; he still complained of much pain over the liver and epigastrium. On

the 18th he became slightly, but decidedly, jaundiced; general condition as before—pulse ninety, urine deeply coloured with bile, but containing neither sugar nor albumen.

On the 20th he became suddenly much worse; his breathing rapid and laboured; pulse 120–130, intermitting; countenance much depressed; sweating profusely, dreadful pain in the epigastrium. On examination the left side of the chest was found to be tympanitic, with respiratory murmur very feeble; the heart displaced to the right side of the sternum, and extensive dulness over the lower portion of the left side of the chest. There had been as yet no hemoptysis, no trace of external emphysema, no audible metallic tinkling or amphoric resonance: neither did the ecchymosis described by Valentin exist in the lumbar region.

On the 21st, in spite of the administration of opium freely, his suffering was extreme; it was hardly possible to examine him so incessant were his cries, “Oh, my poor belly; open it, and let the wind out.”

As there was no doubt as to the fact that blood and air were pent up in the cavity of the left pleura, it was determined, in consultation, to relieve the patient by tapping. Just before proceeding to perform this operation, metallic tinkling and amphoric resonance were heard for the first time, leaving no doubt as to the existence of a wound of the lung. The trochar was introduced two inches external to the nipple; twenty-two and a half ounces of fluid blood (which afterwards coagulated firmly), were drawn off, besides a large quantity of air; the trochar was retained in its place guarded by a valve of membrane to prevent the ingress of air, but permitting the escape of fluid, which dribbled away freely all day. The relief to the patient was complete; his pulse ceased to intermit, he slept soundly. He became, however, gradually weaker, and died, the right lung being attacked by bronchitis, on the tenth day from the receipt of the injury.

Dr. McDonnell observed that the *post mortem* examination, which was made in presence of the pupils of the hospital, was executed with a great deal of care, raising the sternum and removing it without opening the left pleural cavity. They were thus enabled to see the lie of all the parts. The heart was displaced and pushed over to the right side; the stomach displaced downwards, and the diaphragm so pushed down as to be quite thrown below the cartilage of the ribs. It was remarkable that the heart's sounds were distinctly audible under the left clavicle, notwithstanding its great displacement. The existence of the sounds in that region made one almost timid about making an opening in the front part of the chest. On raising the sternum the mediastinum was found to be pushed over, and a considerable quantity of gas occupied the left pleural cavity, on opening which they found it to contain at least three quarts of blood. The lung was lacerated in a terrible way—a large portion of it being nearly torn off, but no rib was broken; and they

therefore supposed that the extensive laceration of the lung had resulted from concussion from the simple shock. Some of the blood on the upper surface of the diaphragm and inside of the pleura had coagulated, but the greater part of it was quite fluid. It appeared as if a part of the lung had been adherent when rent off by the shock. The lung was collapsed and lying against the spine. About an hour or two before his death some clots of blood were spat up; but until the latter moments of his life no hemoptysis occurred. Such cases, he believed, were not very common. It was the second case of the kind he had seen.

Dr. Lyons reminded him of a case that he met with in the Crimea, in which a person wounded by a round shot had his lung greatly lacerated without any fracture of the ribs. And Professor Smith told him that he had seen four such cases—one being that of a dog run over in the streets of Dublin, in which the lungs had been lacerated to a considerable extent, without fracture of any rib. One of the most remarkable symptoms in the case under notice was that the symptoms of pneumothorax and hemorrhage did not supervene until the 5th day, so that he was forced to suppose that even in the extensive laceration which took place, that the lung did not bleed at the time. The man could not, at the time of his admission into hospital, have lost a large quantity of blood into the pleural cavity. It was somewhat analogous to cases where the wound was occasioned by a round shot or jagged instrument. The collapse was not such as to warrant the suspicion of rupture of an internal organ. He was led to suppose that the laceration so tore the vessels and tubes that they did not let out the blood and air in the quantities that escaped some days after the injury had been received.—*February 27, 1864.*

Erysipelas.—DR. M'DONNELL exhibited a limb, removed from a man twenty-eight years of age, who was admitted into Jervis-street Hospital, suffering from a severe attack of gangrenous erysipelas. He said that he had met with no injury, but on the side of the great toe there was a slight abrasion. The foot was greatly swollen. There were large vesicles filled with a dark-coloured fluid, which, being let out, a large gangrenous patch could be seen underneath. The constitutional disturbance was very great. The inflammation rapidly extended up the limb, and phlebitis set in along the course of the saphena vein. The pulse was rapid, and exceedingly weak, and the man was altogether in the depressed condition of a person suffering from a severe injury—so much so, that measures were taken to resuscitate him from almost a state of collapse. We visited him again on the same day, and made four incisions upon the dorsum of the foot, from which there trickled out matter which was infiltrated in the cellular tissue. After several days the erysipelas spread, but did not go very far above the knee. The integuments of the calf of the leg sloughed,

leaving extensive ulcers. The irritative fever was intense; the pulse was 130 in the morning, and 140 in the evening. He continued, however, all through to take nourishment freely. On the 1st of March the limb was removed, and the man was still going on very well. The case was worthy of the notice of the Society, inasmuch as these terrible instances of gangrenous erysipelas were fortunately not of very frequent occurrence in civil practice.—*March 5, 1864.*

Ulcer of the Stomach.—DR. BEATTY brought under the notice of the Society a specimen of perforating ulcer of the stomach, taken from the body of a female who had been under his observation on three different occasions. Upon the first of these she walked into his study, complaining of pain in the region of the stomach, but looking well. She was about twenty-five years of age. The pain was not, at this period, severe, but in accordance with her wishes she was admitted into the City of Dublin Hospital. At the end of a week she thought herself so much better that she left the hospital, and he saw nothing more of her until last Monday, when she again came to his house, complaining of a similar pain. She still appeared in good condition, had no vomiting, but complained of a burning kind of pain, extending from the stomach downwards, over the rest of the abdomen.

On last Wednesday night he saw her at 11 o'clock, when he found that at 6 o'clock, p.m., the same day, she was suddenly attacked with violent pain in the abdomen, causing her to scream. From that time the pain continued with great intensity, but without any vomiting. He found her lying on her back, with her knees drawn up; she was covered with perspiration; the pulse was 130, and signs of collapse were apparent. Twelve hours afterwards she began to vomit, and rejected anything that entered the stomach, and died twenty-three hours from the setting in of the severe pain. The diagnosis arrived at was—perforation of some portion of the digestive tube.

Autopsy.—A perforation as large as a shilling was found in the anterior wall of the stomach. It was circular, well-defined, and with a thick elevated margin. This portion of the stomach had, however, become closely adherent to the under surface of the left lobe of the liver, so that there was no escape of the contents of the former organ. There did not appear in this case to be any cancerous disease, but there was some thickening of the tissues of the stomach.—*March 5, 1864.*

Arachnitis.—DR. BANON exhibited the morbid specimen, and described a case, of cerebral disease in a mare, which had come under his notice within the last few days. On Monday last he was visiting a friend in Merrion-square, who asked him to consult with Mr. Ferguson, veterinary surgeon, who was at the time in attendance on a valuable mare belonging

to the family. From the account given him of the symptoms, and from the circumstance of the animal having had a rigor, Dr. Banon considered it to be a severe febrile attack. On consultation, however, with Mr. Ferguson, to his surprise, that gentleman told him that the disease was acute inflammation of the arachnoid membrane, intervening between the medulla oblongata and the cerebellum, and added that the animal would die within three or four days. The result proved the correctness of the prognosis, for the mare became rapidly worse, and the case so hopeless that, at the owner's request, the carotid arteries were divided.

Dr. Banon read the following account of the case, written by Mr. Ferguson, and containing that gentleman's views respecting the nature and pathology of the disease:—

“Chronic disease of that portion of the arachnoid membrane intervening between the medulla oblongata and the cerebellum, is frequent among horses, particularly female ones; and generally, sooner or later, gives rise to very marked symptoms, which have hitherto been, by veterinary practitioners, mistaken for indications of other affections. When the disease has advanced so far as to interfere by pressure, or by deranging the circulation of the cerebellum, the animal, if a female, evinces intense and continuous desire for sexual intercourse. There is also a disposition to catch hold of objects with the teeth, retain them there, or continue gnawing them. Sometimes the first symptom observed is a rapid snapping of the teeth together, at short intervals, much resembling what occurs in a rigor, though not so prolonged. The pulse is generally slow, the respiration natural, though sighing is often observable. In some cases there is no diminution of appetite—in others there is, but not at first. The uterine irritation increases; the propensity to bite becomes greater; the animal tears everything within its reach—even the wall of the stable and the ground, the paving of which it often tears up partially. At this stage the affection is generally mistaken for hydrophobia. In the beginning it is not unfrequently supposed, from the frequent attempts to pass urine, to be an affection of the kidneys or bladder. Despite of every treatment, such cases terminate fatally. In some the progress is very gradual—in others the patient dies in three or four days.

“A marked case of this affection recently presented itself. An aged brown mare, the property of Mr. K——, of Merrion-square, was observed, on last Monday morning, when she was being harnessed, to appear very uneasy. The servant thought she was getting colic. Having been sent for, I found her very restless, but with a natural pulse and respiration I observed, however, the snapping of the teeth, and the genital excitement to which I have already alluded, as striking symptoms of this disease. Much to the astonishment of the persons present, I pronounced the case as hopeless. Towards evening, Dr. Banon, happening to be at the owner's residence, was requested to ask my opinion as to the probable result. He

was also good enough to look at the animal with me. I told him my reason for making so unfavourable a prognosis, which was, that I considered that the animal had chronic granular disease of the arachnoid membrane, at the base of the cerebellum, of long standing. The mare got rapidly worse, tearing with her teeth—not alone the wood-work of the stable, the walls, and even the pavement, but also herself. She became so violent, that on Thursday, the fourth day of the attack, I was compelled, by the owner's direction, to have her put to death, which was done by dividing the carotid arteries. On the previous evening she had lost nearly four quarts of blood from the jugular vein.

“On making a *post mortem* examination, all the thoracic and abdominal viscera were found healthy. The uterus, ovaries, and vagina, presented merely the appearances usually seen in mares when in a state of œstrum. On examining the brain, the arachnoid membrane, particularly that of the cerebellum, notwithstanding that the animal had been bled to death, was found very much congested. At the junction of the cerebellum with the medulla oblongata there was the granulated mass of diseased arachnoid membrane, such as I had stated would be found. It contained small calcareous deposits, like small shot, and the substance of the cerebellum, in contact with it, was disintegrated.”

Dr. Banon, without pledging himself as to the views and deductions drawn by Mr. Ferguson, bore testimony to the correctness of the account given of the symptoms in this particular case, which he had watched with great interest.—*March 5, 1864.*

Tubercles in the Lungs and Peritoneum.—DR. BANON exhibited a specimen of tubercular disease of the peritoneum, occurring in a phthisical patient, a girl aged twenty-two, who had been committed, in December, 1862, to the Mountjoy female prison. She was admitted into the hospital department last August, labouring under ascites. On the 20th of October she was tapped, and seven gallons and a half of fluid were drawn off. The girl lived until the 22nd of last month, and never had a return of the ascites. She died of pulmonary consumption.

The lungs were found, upon *post mortem* examination, completely filled, throughout their entire extent, with tubercular matter, and both the visceral and parietal layers of the peritoneum were studded thickly with miliary tubercles. The frequency of the deposit of tubercular matter on the mucous surface of the intestinal canal, in cases of phthisis, was remarkable, but in this case the mucous membrane was free from any such deposition. The liver was in a state of fatty degeneration. The other viscera of the thorax and abdomen were healthy.—*March 5, 1864.*

Paronychia.—MR. TYRRELL exhibited a cast of a man's hand, showing gangrene of the right fore-finger, and also the gangrenous finger itself.

The patient was admitted into Jervis-street Hospital on the 20th of February, and the account he gave was—that eight days previously he was out fishing, and he was clearing out his net and taking a Medusa from it, when he found a sudden stinging sensation running up his finger (which had been slightly wounded before), as far as the metacarpal bone. The pain gradually subsided, and he took no more notice of the matter for two days, when, swelling and pain in the finger coming on suddenly, he poulticed it for two days; and, on the fifth day after the sting of the Medusa, he went to a surgeon, who opened the finger, but it must have been mortified at that time, inasmuch as he said the operation did not cause him any pain. On the seventh day he came to Dublin, and was admitted into Jervis-street Hospital. The entire finger was gangrenous, and a considerable amount of inflammation extended upwards along the anterior part of the hand, and likewise the back part of it; and on pressing on the palm, pus exuded, showing that the disease had extended higher up in the subcutaneous than in the cutaneous structures. After the man had been in hospital a few days, and when the line of demarcation was distinctly formed, Dr. Tyrrell removed the finger and a part of the metacarpal bone. He did not like to perform the operation recommended by Mr. Ferguson—of removing the metacarpal bone obliquely, inasmuch as the man, being a sailor, had laid great stress on the breadth of this part of the hand, as enabling him the better to lay hold of ropes, and he preferred having the bone cut off straight. This was a true case of paronychia gangrenosa, different from that form mentioned by Dr. Todd in the second volume of the *Dublin Hospital Reports*, which was of a constitutional nature. The only question was, whether they were to ascribe the rapid death of the part to the sting of the Medusa. It was well known that these jelly fish, when taken hold of, often stung the hand very smartly, and it might have happened that the urticating, or poisonous liquid, got into the slight wound in the man's finger and poisoned the blood, so that when inflammation arose from the wound, it rapidly ran on to gangrene. It was a very rare specimen of the disease, and might, perhaps, be of some importance, as a warning that we should not handle these animals lightly if there should be any wound in the hand.—*March 12, 1864.*

Hematocoele.—DR. ROBERT M'DONNELL brought forward the following case:—A middle-aged man was admitted to the hospital of the Mountjoy Convict Prison on the 26th of July, 1863, having a tumour in the scrotum the size of a child's head. He gave the following history of his case, but without much precision or clearness:—A swelling had first made its appearance between three and four months before, and having attained a size about equal to his fist, was tapped by a surgeon, and a clear straw-coloured fluid drawn off. After an interval of a month the operation

was again performed, seemingly with perfect success. A month before he came under my notice he had, a third time, been tapped. On this occasion, he said, that the quantity of fluid drawn off was less than on the other occasions; a considerable sized tumour remained behind; and, on the day after the tapping, the swelling was as great as before the operation.

The man's aspect was not unhealthy, and he had two grown-up sons, also healthy men, inmates of the prison. The scrotum was of a dusky red colour, with enlarged veins ramifying over the tumour; the glands in both groins were enlarged; the swelling, which was very inconvenient to him from its bulk and weight, had all the external look of a malignant tumour. It was uncomplicated by hernia, was perfectly opaque when examined by light, gave an obscure feeling of fluctuation, and was distinctly resonant—I may say tympanitic—on percussion. At the lower part of the tumour there was a minute opening, from which some drops of turbid serum, having a peculiarly fetid odour, could be expressed. The tumour was regarded by myself, and the surgeons who saw the case in consultation with me, as a hematocele which had undergone decomposition, and thus given rise to the formation of gas in the tunica vaginalis; but the question was, whether malignant disease of the testis co-existed with this condition. The look of the tumour, its great size, its dusky redness, the veins ramifying over it, as well as the enlargement of the glands in the groin, favoured this view. Some, regarding the disease as malignant, and so advanced as to have contaminated the neighbouring glands, doubted the propriety of removing it. Professor Syme of Edinburgh, happening to be in Dublin, saw the case; and as he and my colleague, Dr. Banon, concurred with me in deeming it advisable to remove the tumour, I did so on the 18th of August.

There was nothing peculiar in the operation. The *écraseur* was used to divide the cord, and from its vessels, which were not afterwards ligatured, not one drop of blood escaped. The tumour here exhibited gives no idea of the bulk of the mass at the time of removal. There was so much gas within the tunica vaginalis, that the whole floated when thrown into a bucket of water. The gas collected proved to be sulphureted hydrogen. The tumour was in no respect malignant in its nature—it was simply a decomposed hematocele, as seen in the accompanying drawing. The walls of the tunica vaginalis are immensely thickened; the blood clot softened and rotten; but the testicle, although flattened and atrophied by pressure, free from disease.

The patient made a rapid recovery, and is now perfectly well.—*March 12, 1864.*

Ulceration of the Intestines.—DR. HENRY KENNEDY exhibited a specimen of ulceration of the ileum, taken from the body of a man who had died

of enteric fever; but in whose case the symptoms were so mixed that he thought it worthy of being put on record. On 22nd of May, 1863, the late Dr. Neligan sent the patient into Sir Patrick Dun's Hospital. He was aged twenty-six, and of a highly nervous temperament; and his fever was said to have arisen from fright, owing to a pair of horses he was driving having run away. He struggled against his illness till four days before admission. When first seen by Dr. Kennedy he had been eight days ill; and had the look of a man who was likely to have heavy fever, the brain being the organ then engaged. He had a brilliant injected eye, with trembling and nervous twitchings about the face; the skin was hot. On the eleventh day diarrhea had set in, and for the first time a few spots could be detected on the abdomen; and signs of enteric fever afterwards showed themselves. *These entirely subsided by the fourth day from their onset*: but not so the fever. The spots became darker, much more numerous, and spread over the chest, front of the neck, and down the arms, and well marked petechiæ could be distinguished amongst them. The fever became genuine typhus; the tongue was dry and brown, and sordes collected about the lips; a constant low muttering delirium set in, and always about horses; subsultus, sinking in the bed, &c. In this state the patient lived till the thirty-fourth day. On examination all the lower part of the ileum intestine was found extensively ulcerated; and yet during the last nineteen days of the patient's life, the bowels had been so confined that aperient medicine had to be given.

The case presented three very distinct stages of fever. During the first eleven days, the symptoms were those of typhus; in the second stage, lasting four days, enteric fever was present, with the characteristic spots; while the third, lasting nineteen days, was marked by a copious rash, and all the ordinary symptoms of typhus.

Dr. Kennedy observed that he had published in the *Lancet* of 26th December, 1863, three cases of fever, in each of which the spots, supposed to distinguish enteric fever, were particularly well marked; and yet in none of these did any other sign of this form of fever show itself.—*March 12, 1864.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-SIXTH ANNUAL SESSION, 1863-64.

DR. DENHAM, President.

DR. MCCLINTOCK read a paper on *Missed Labour*, printed at page 51, Vol. XXXVII.—9th January, 1864.

DR. HARDY on *Pregnancy with a Blighted Ovum*.

The regular and healthy progress of pregnancy is sometimes suddenly or slowly interrupted by the occurrence of various circumstances, which make such impressions upon the female system as result in the death of the ovum; accompanied at the time of their invasion, occasionally, by symptoms threatening miscarriage, such as hemorrhage, whilst at other times there are no such indications.

The histories of three cases, in which the ovum was blighted during pregnancy, I shall now detail to the society, which I hope may not be altogether devoid of interest.

In the first the ovum was blighted in the third month, and retained within the uterus until the end of the ninth; in the second it was blighted in the fourth; and in the third in the fifth month of pregnancy.

Death of the Ovum in the Third Month.—On the 23rd of December last I was requested by a medical gentleman to see a lady under his care, who had been suffering from uterine hemorrhage since the 22nd instant. I was informed that she had given birth to eleven children, and had three abortions. Being forty-four years of age, and not having had a menstrual period for six months, she considered she had passed the change of life, and this was principally what made her so anxious at the present loss of blood. She was a thin, pale, delicate-looking woman, and appeared considerably out of health.

On the day I saw her she had pains recurring at intervals. The uterus could be felt behind the pubes, and the os was dilated to the size of rather more than a shilling. I passed my finger into its cavity, and felt a substance of a fleshy consistence, which was evidently about to come away. I now learned that in July last she had considered herself three months pregnant. She had gone in a boat, at this time, with a party of pleasure, and had met with a great fright, which was followed by hemorrhage on the next day, and for a fortnight after. She felt perfectly certain that nothing but blood had been expelled.

* These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

From this occurrence the uneasy sensations of pregnancy, which had troubled her, such as nausea, morning sickness, and waterbrash, ceased, and her breasts, which had been tolerably plump, entirely diminished in volume.

The uterine tumour she perceived to be as large as before, but in its locality there was a sensation of weight and soreness which quite incapacitated her from walking, until within the last three weeks.

In a few hours after my visit the ovum was expelled. It had the appearance of having been closely compressed; within its cavity there was a quantity of membrane, with a pulpy looking substance, which may have been the remains of the fetus partly absorbed.

The recovery of the patient was very slow; for a long time there was a good deal of uneasiness in the left uterine region, running down the thigh, and her general aspect was a look of extreme debility.

Death of the Ovum in the Fourth Month of Gestation.—I was summoned to a lady, five months advanced in her third pregnancy, on the morning of the 13th of last December, who had been affected with pains during the night. On my arrival she had just expelled an ovum, which had the appearance of having been some time dead. The membranes were yellowish and unbroken, and the fetus was about the age of four months.

I was informed that a month ago, on passing through her hall, she had fallen over some luggage. At the time she felt hurt, but afterwards thought no more of the circumstance, with the exception of some pain in the uterine region, where she had been struck in falling.

Her breasts, since the accident, had become quite flaccid; and she had not perceived any movements of the fetus. During her recovery the tenderness of the uterus, where it had been hurt by the fall, required the application of leeches and poultices, for its removal; and her breasts became so full and tense, that it was necessary to keep them covered with cere cloths until the distension had subsided.

Death of the Fetus in the Fifth Month of Pregnancy.—On the 3rd of October, 1862, a lady, in the fifth month of her second pregnancy, on rising off a music-stool, upon which she had been seated at a piano, owing to the pressure of a crinoline, knocked it down, and fell on the end of one of its legs, in a sitting posture, which hurt her so very much that her servant had to carry her up stairs. I was immediately sent for. I found her laid on her bed, pale, and nearly pulseless from very copious hemorrhage. The leg of the stool had lacerated the right labium, at its inner edge, very extensively. It required some time to restrain the bleeding and to restore the patient's strength.

From the date of the accident no fetal movements were felt, and stethoscopic examinations failed to hear the fetal heart pulsations. The uterine soufflet was always distinctly heard. The uterus corresponded in volume to the date of pregnancy; to the patient it felt like a dull weight. The

breasts diminished in size, and lost the characteristic appearances of pregnancy observable about the nipples at this period. This state continued for nearly three weeks. The volume of the uterus then felt of a globular form, becoming, occasionally, tolerably firm. The breasts enlarged, and the areola was distinctly turgescient and well marked. In two days after the fetus was expelled—being the twenty-first day from the accident. The head presented, and the child seemed some time dead.

Dr. Ingleby mentions a case very similar to the first I have detailed. The woman expressed her conviction of being three months pregnant. Soon afterwards she lost every symptom (amenorrhea excepted), but persisted in asserting its existence. At the ninth month she expelled a fetus of apparently three months. In her case there was no uterine hemorrhage that is mentioned.

When the ovum becomes blighted during pregnancy it may remain a considerable time in the uterus, giving rise to a train of anomalous symptoms which render patients doubtful as to their situation. Where they have suffered from hemorrhage, as in the present instance, those doubts are more likely to arise; but the distinct statement of the patient (Case I.), that nothing but blood was expelled, in a great measure assisted in the diagnosis.

It is a matter of very great importance to see the patient soon after the ovum is supposed to have died, as exemplified in the third case, that of lacerated wound of the labium. Should the fetus be retained the practitioner has opportunities of observing the fading away of the areola, the diminishing of the breasts, and of the various other symptoms which indicate the existence of a healthy pregnancy. It is well to be remembered, then, in cases of this description, where severe loss of blood was sustained, the state of the breasts is sometimes sensibly affected. An instance of this kind occurred in the practice of Dr. Ingleby. He was called, in consultation, to a lady within a short time of the full term of pregnancy, who had placenta presentation. Loss of blood had produced a marked impression upon the system, and her breasts, which had been previously much increased in volume, became soft and small. No movements having been felt, the child was supposed to have died; but this was not so, and, notwithstanding the interference necessary in the delivery of such cases, it was born alive, a fortnight from the first attack of flooding.

The late Dr. Montgomery mentions his having been called, on the 9th of August, 1840, to see a lady, who, in consequence of some domestic dissension, was just then separated from her husband, and was about suing for a separate maintenance. Her being pregnant, as she positively professed to be, would very materially influence the result. She had felt fetal movements on the 7th of August, two days before his seeing her. His opinion was that she was pregnant; but he had doubts. Eight days

after he visited her, with another practitioner. The evidences of pregnancy were then less distinct: the abdomen was smaller; the mammæ more flaccid, and the areola less. The medical man in consultation with him considered her not pregnant.

On the 15th September the evidences of pregnancy were still less; and on the 6th of October they were completely gone. On the 17th a dead fetus was expelled.

In my third case the breasts diminished and the areola faded from the time of the accident, so that the mammary symptoms were quite removed until within about two days of expulsion of the fetus. Had any one seen them, on one of those days, who had not observed the change in them I have mentioned, I think he should have felt considerable doubts as to the condition of the ovum. I do not remember, on any previous occasion, having remarked so rapid and striking an alteration produced, or one so likely to embarrass.

This excitement of the breasts was of very short duration, and subsided without giving the patient any inconvenience, contrary to Case II., in which cere cloths were necessary.

In the case of an ovum becoming blighted, and producing symptoms such as were present in the first case detailed, a patient at her time of life has good reason for feeling anxious, when it is remembered how frequently diseases of the uterus, of malignant character, are then becoming developed, and are sometimes far advanced in their progress when hemorrhage, for the first time, has directed attention to them. To illustrate this remark I need only mention the very insidious advances sometimes observed in carcinoma.

But even where there is no complication or disease, the presence of a blighted ovum within the uterine cavity for so long a period as six months is very liable to give rise to a train of unpleasant symptoms—cessation of menstruation; irregular and unhealthy discharges; weight and uneasiness in the pelvic cavity; inability to walk, and the risk of again becoming pregnant, with the remains of a dead ovum in the uterus, of which condition a case is recorded by the late Dr. Montgomery.—13th February, 1864.

DR. HARDY on the Use of Cere Cloths in the Treatment of Painful Affections of the Female Breast.

I mentioned having applied cere cloths to relieve the distension of the breasts in one of the cases detailed in the foregoing paper. Made as they usually are, of bees-wax and sweet oil, spread on linen, they are ill-suited for the purpose for which they are intended; they become very brittle and crumble about the patient's bed. In preparing them if a little glycerine and resin plaster be added to those ingredients, and spread on

thin leather instead of linen, they can be removed and reapplied without any inconvenience.^a

By spreading over the surface occasionally, glycerine diluted with tepid water, this application may be made to answer the purpose of a perpetual vapour bath on the breast, and thus prevent the often injurious handling and rubbing which it is frequently subjected to from the nurse, or save the risk of cold in fomenting.

By saying so I do not mean to detract from the very beneficial effects of both hand rubbing and fomentations, when properly applied. It is their injudicious and wrong application which I condemn.

Cere cloths are very soothing in painful affections of the breasts of very young infants. I lately applied them in a case of inflammation and enlargement, where the child was about a fortnight old; both breasts were greatly distended. The nurse, when showing them to me, said she had not squeezed them until she first let me see them. No other means were resorted to, and in a few days the disease was quite removed.

In painful and irritable conditions of the breast, either on the setting in of lactation or owing to disease, the addition of extract of belladonna is sometimes most beneficial. It may be spread over cere cloths made as I have described, and in this way be rendered more efficacious; as then it will be prevented from drying on the surface. In two cases particularly I found the application of belladonna most valuable.

In March, 1852, I attended a lady in her first confinement; she was remarkably healthy, and had a good labour. Her breasts were well formed, the nipples very good, and without any trace of tenderness on the surface; but so exceedingly sensitive that the least touch, in endeavouring to nurse her infant, was intolerable.

The extract of belladonna was smeared over her breasts outside the margin of the areola; one application left on for a short time (less than an hour) removed every trace of irritation. She has given birth to several children since then, and never again had any such annoyance.

I took the precaution, which is very necessary in all such cases, of strictly removing the infant from its mother until after the belladonna had been some time very carefully washed off the breasts.

The second case was a lady who was confined of her first child in November, 1856. During her labour, until she inhaled chloroform, she was most violent. She then became so quiet, her husband, wondering at

^a *Cere cloth.*

R.—Cer. Flav.

Ol. oliv. a, a, ℥ii.

Glycerine ℥ii.

Emp. Resin, ℥ss.—M.

Ft. Emplast.

Cere cloth with Belladonna:

To the above add Emp. Belladon. ℥ss.

Cere cloth with Opium:

To the cere cloth plaster add Emp. opii. ℥ss.

the sudden return of peace, looked into the room. On perceiving him she said :—"Dick, I don't mind it now, I have the chloroform."

On her breasts becoming distended at the commencing of lactation she suffered such intense pain that I was sent for during the night. She was in a great state of excitement.

In addition to internal remedies I smeared her breasts freely with extract of belladonna.

Next morning I found her perfectly tranquil. She said (pointing to her breasts):—"Here they are, like two stones; but not in the least painful;" nor were they from that time. This lady and her sister had the same peculiarities; their breasts became intensely hard, but without any secretion of milk whatever. Neither of them could nurse.

The greatest degree of this peculiar sensitiveness I ever met with was in vaccinating two gentlemen, brothers, both strong healthy men. Neither of them could bear the least touch of the lancet without exclaiming. One of them in particular became deathly pale; the perspiration poured down his face, and he had to be laid fainting on a sofa. Wine and smelling salts were freely used before I could complete the operation, which occupied not less than twenty minutes.

It was only necessary to scratch the skin lightly with the nail to cause the same effect as that excited by the lancet.—*13th February, 1864.*

MR. M. H. COLLIS detailed the particulars of a fatal case of ovariectomy.—*12th March, 1864.*

DR. HARDY exhibited a fatty tumour, and read the following account of it :—

I removed, this morning, a fatty tumour from the right labium of a patient under my care in Steevens' Hospital. The woman has had no children, though an extensive laceration of the perineum would lead one to suppose she had. She cannot account for the laceration. She is about thirty-six years of age. The tumour was growing twelve months. It caused no painful sensations, excepting by the dragging of its weight. In the longitudinal circumference, from above downwards, it measured 9 inches; its smallest circumference is 7 inches; and its weight $4\frac{3}{4}$ ounces. I removed it by the *écraseur*, the patient being under the influence of chloroform. There was not a drop of blood lost. On examining the tumour, it will be seen to contain no blood-vessels, except in the integumentary covering. In applying the *écraseur* I drew the tumour firmly through the chain of the instrument, so as to allow sufficient covering of integument to the labium, and to avoid including the mucous membrane. In consequence of this precaution I expect the wounded part will heal with less uneasiness to the patient.

Fatty tumours of the labium are not so frequent as those of a fibrous character. As mentioned in the history of this case, they give rise to few symptoms, and seem only by their weight and size to give annoyance. Gradually they become pediculated when very large; but this state had not been arrived at in the present instance. The tumour here was, as the excised part shows, of considerable breadth, and closely attached to the integument of the labium. These tumours grow more frequently from the right than the left labium. Sometimes they become excoriated and ulcerated on their inferior surface, owing to friction, it may be, or in consequence of acrid vaginal discharges passing over them. They do not seem peculiar to any particular age. They sometimes very much resemble encysted tumours; where any doubt exists as to their character, the exploring needle will be of valuable assistance.

Removal by the *écraseur* has decidedly very great advantages in those cases over every other form of operation. It is so very soon over, the risk of hemorrhage (in this locality so often very free) is greatly diminished, and the size of the wounded integument is so much contracted.—*16th April, 1864.*

Operations for Ruptured Perineum.—DR. DENHAM read the following paper, and exhibited a doubly-curved needle that he had made for inserting the deep sutures in the operation:—

The subject of prolapsus uteri has, at all times, been one of interest and perplexity to the practitioner, too often entailing an amount of suffering and distress upon the patient that only terminates with death. It is not my intention to enter into the history, the different causes assigned, or the different modes of treatment recommended for the disease, but simply to detail the result of some cases treated in the manner recommended by Mr. Giddings, Mr. Baker-Brown, and Mr. Savage.

We were induced to try the operation by meeting a patient sent up from the country, who could not retain a pessary of any size or form that we could think of; and again, by meeting with a second at the same time, who could not bear the pain and irritation of any instrument sufficiently large to afford her relief.

We have learned, however, that the operation, although safe and easily performed, is not suitable to many forms of prolapse; and further, that it will sometimes fail; and, as my friend Dr. Churchill quaintly remarks, the uterus, during its active life, will gradually bore its way through, and again protrude.

E. S., a stout active woman, aged thirty-eight, sent up to hospital from county Galway, by her master, to whom she had been a faithful servant for many years. States that she is the mother of three children; was thirty hours in labour of her first child; had a slow recovery, and was long delicate; had a feeling as if something was about to come out

through the passage, but the uterus did not protrude until after the birth of her second child. Her third and last child is now three years old, and she has suffered from prolapse ever since its birth. She declared she was often obliged to go on her knees, and then lie down on the stairs while at her work as a servant. She suffered often and much from retention of urine; and so low did the womb come down, that when attempting to pass water, it would touch the bottom of the chamber pot. On examination, we found the walls of the vagina very much relaxed, and the perineum badly ruptured. After keeping her in bed for some days, and using astringent lotions, we tried several varieties of pessary—the large globular, the flat, the ring, and Hodge's, but all to no purpose; she could not retain them; either while walking across the floor, or on going to stool, they were sure to escape; and with the pessary down came the uterus.

The dread of an operation—the fear of never coming *to*, as she expressed it, if put under the influence of chloroform—rendered a large amount of persuasion necessary to induce her to comply with our wishes. However, we operated, on the 29th October, and she left the hospital perfectly well on the 6th of December last—having, for many days previous to leaving, gone, not only up and down the hospital stairs, but out into the city for hours, without any inconvenience.

We have heard from her since her return to the country, and she continues, so far, comfortable and well.

Rose M'E., the wife of a small farmer, came from Kells, for medical advice, in October last. She appeared pale and delicate; aged about forty. She stated that she had married late in life, that she was the mother of two children, and that her health had been very bad indeed since the birth of her first child. Her labour then was long and severe, and the delivery was completed by instruments. From the time of her first confinement she suffered from a sense of bearing down, and experienced pain and difficulty in walking; but the womb never came down entirely until after the birth of her second child, two years ago. Since then the womb has been very much down. She has been unable to walk much; the bowels have been either too much relaxed or obstinately constipated; the appetite had grown weak and debilitated.

On examination, it was found that the whole perineum was destroyed, and even the lower end of the bowel, throwing the two passages, for a short distance, into one. On dissecting off the integument, the fibres of the deep sphincter ani were brought plainly into view.

She was operated on on the 13th November last. The extent of skin and mucous membrane removed was necessarily greater than in the former case, and consequently there was greater loss of blood, but not to the extent of creating any alarm. The deep sutures were removed in sixty hours, and the superficial in ten days.

She left the hospital, well, on December 5th. I have seen her since, much improved in health, the wound perfectly whole, and the uterus in its place.

Miss R., aged 45, came into hospital in December last, labouring under prolapse of the uterus. She stated that three and a-half years ago, while lifting a feather bed, she felt as if something gave way; and, on examination, she found something protruding, which proved to be the uterus. A pessary was introduced soon afterwards, and allowed to remain for two and a-half years. At the end of that time it produced such an amount of irritation and inflammation, that she was obliged to have it removed; but the instrument was so embedded in the soft parts that very great difficulty was experienced in its removal; and so tender did the parts remain, that she never could bear an instrument again; and at the time of admission the uterus had been down continuously for months.

The operation was easily and safely performed on the 18th December; but vomiting set in twelve hours after, and continued incessantly for twenty-four hours, much to the distress and discomfort of the patient, and the alarm of the medical attendants, as it was feared the sutures would give way. They did not, however, and the wound healed entirely and rapidly, the deep sutures having been removed in fifty-seven hours, and the superficial in ten days. She remained in hospital for some weeks, apparently quite well, and the wound perfectly healed; but unfortunately, on the very day she returned to her room, being of an excitable fussy disposition, she over-exerted herself, and brought on a violent fit of retching, during which a portion of the wound gave way, and the uterus again made its appearance. She did not return to hospital, or tell us anything of what had happened, but went out continually about some pressing business of a pecuniary nature for ten days, at the end of which time she was nearly as bad as before the operation. She is now in hospital again, and we are greatly at a loss to determine what to do for her, or how to relieve her. Any hint on the subject, from the members of the society will be most thankfully received.—16th April, 1864.

DR. M'CLINTOCK read a paper, entitled, *Further Observations on Missed Labour*, printed at page 307, Vol. XXXVII.—16th April, 1864.

Memoir on the Pathogeny of Strabismus. By PROFESSOR F. C. DONDERS, of Utrecht. Translated by E. PERCEVAL WRIGHT, M.D., F.R.C.S.I., Surgeon in charge of the Ophthalmic Dispensary of Steevens' Hospital.^a

(Continued from Vol. xxxvii., No. 74, page 490.)

IN the majority of instances strabismus ends by becoming habitual. The rule is that one and the same eye always deviates (strabismus simplex). This was already the case when the strabismus was still periodic. If the strabismus alternates in a hypermetropic patient, other causes are frequently at play. The strabismus is generally concomitant; the movements are free; the area of movement is normal save that there is an excessive mobility inwards, and a more limited one outwards in both eyes. The one and the same eye alone deviates; the other is invariably well directed. Notwithstanding the internal recti muscles must be considered as shortened. This shortening, at first dynamic, in the case of constant strabismus becomes organic. It is the consequence of excessive use combined with feebleness of the antagonistic muscles; there is no pathological change present. That both the internal recti muscles are shortened results from the habit of keeping the object intently on the side of the distorted eye, so that even in the normal eye the internal rectus is brought into relatively strong contractions. In this position the hypermetropia of the non-deviating eye is best overcome. Even when squint has become habitual, there is in connexion with fixation a relatively stronger contraction of the internal recti muscles whereby the angle of squint increases; in the case where there is already a large angle of deviation, this will be only in a slight degree, because their increased straining occasions less motion. After tenotomy the increase of convergence in these cases, while regarding some object intently, appears again very strongly. This increasing of convergence in the act of fixation, after a correct position has been obtained by tenotomy, is important from a two-fold point of view. First, because we have adults who declare that they distinctly feel the convergence, and perceive, at the same time, that they induce it, as it were, voluntarily in order to see more distinctly. A more direct proof that hypermetropia may determine strabismus could, I think, not be given, for here we have, in a manner, a return to the first period of strabismus, with this difference—that the deviation can now be appreciated by the person himself; and, just as in the original stage, the first appearance—so here the relapse must be guarded against by the use of convex

^a This Translation is made from the original Memoir in the *Archiv für Ophthalmologie* Herausgegeben von Arlt, Donders, and A. von Graefe. Band. 9, Abth. 1. Berlin, 1863. With a few additions from the French Translation by Dr. van Biervliet, in the *Annales d'Oculistique*. Tome L, 3^e and 4^e Livraisons. Octobre, 1863.

glasses sufficient to centralize the hypermetropia. The practical direction to use proper convex glasses while working, after tenotomy, is the second reason why we considered the symptom in question important. In simple strabismus the sharpness of sight becomes, in the affected nerve, more and more enfeebled. At first if the hand is held before the normal eye, the squinting eye directs itself properly towards an object, and may even remain thus fixed when the hand is removed; but it soon, however, gives place to the other, usually when some new motion is attempted, often even at the first winking of the eyelids. Sharpness of sight will now have already diminished in the deviating eye; but it is still, for a considerable length of time, nearly sufficient, and it may, by exercise, be restored; it improves, too, most generally, immediately after tenotomy. In the course of time, however, the deviating eye no longer directs its line of vision on the object when the normal eye is excluded; but this line passes along on the inner side, so that the image of the object falls on the inner side of the retina. When such is the case we may conclude, that the sharpness of sight of the deviating eye in the line of vision, as well as in the common visual field of both eyes is diminished; whilst, on the other hand, that of indirect vision on the innermost portion of the retina, so far as this portion has its own field of vision and sees objects not represented in the retina of the other eye, has remained undiminished.

Von Graefe was the first to investigate this loss of physiological sensibility by psychical abstraction. Truly a remarkable phenomenon! It is a well known fact that we can, by attention, increase the acuteness of our organs of sense. That which precedes proves, on the other hand, that a nerve may lose the power of receiving those impressions from which we desire psychically to abstract ourselves, and presents us, therefore, with a very important example of this fact. In such cases, although no organic changes are to be noticed in the retina, yet, neither by constant practice nor by tenotomy, is there any considerable improvement to be obtained.

Has the origin of strabismus been accounted for on any former occasion by the presence of hypermetropia? This question may, I think, be answered in the negative; indeed it is almost natural that it should be so, because it is only for the last few years that hypermetropia has been understood, and total hypermetropia, and, to a considerable extent, latent hypermetropia had been overlooked, until that, having convinced myself of their existence, I commenced to perceive their connexion with strabismus. My perceptions have been, without any doubt, assisted by what has been discovered and recorded by my predecessors. Not to speak of some few isolated observations¹⁹ which, since the discovery of hypermetropia, proved it to exist along with strabismus, I would, in the first place, refer to Böhm's²⁰ investigations

respecting squinting, where it is plainly stated that squinters can distinguish a certain type, with the assistance of *convex glasses*, at a greater distance than they would with unassisted vision. This observation was of great importance, and it might have led to the discovery of hypermetropia, and, in particular, of the connexion of hypermetropia with strabismus, had Böhm, with a thorough knowledge of dioptrics, understood and rightly explained the facts which he had observed. Instead, however, of thinking of a condition in which the focal point of the dioptric system should lie behind the retina, Böhm had recourse to a mysterious connexion of "*physical presbyopia*," with "*vital myopia*;" and he was very far, at all events, from seeking in this for the cause of squint. In investigating the origin and cause of strabismus he falls into the same error as all his predecessors—investigating them, not for a distinct form of squint—for a real form of disease—but for a symptom—squinting in general. The causes, resulting from totally different conditions are then sought for and investigated indiscriminately. It might have been foreseen that the pathogeny of squint could not in this way be revealed. And further, when Böhm treats of the "*origin of squinting having its source in the eye itself*;" and also, of the "*ætiology of squinting as originating in the eye*," the condition of the deviating eye is, and remains with him, the important matter; he speaks of the "short-sightedness of one eye, while the other preserves its normal condition," of "asthenopia of one eye," of "feebleness of vision of one eye;" and, according to him, it is this eye always that deviates. In this deviation he sees an effort to exclude this eye from vision, without recognising in it an effort to try to improve the distinctness of the images of the undistorted eye. That which we have admitted farther back as one of the circumstances under which the eye more easily allows itself to be withdrawn from binocular vision, is, for him, the all important cause of squint. So Böhm was as far from understanding the reason of converging strabismus as any one else.

In later years von Graefe²¹ was certainly very nearly discovering the cause of strabismus to be hypermetropia. He did not, however, exactly treat of the pathogeny of squint; and he even apologises when, in passing, a few remarks respecting it escape from his pen. These remarks, however, we regard as well worthy of attention; but, as it did not occur to him to introduce hypermetropia as an element into the subject, they remained, for the most part, fruitless. Von Graefe mentions, as a well-known fact, that an "intercurrent or periodic squint" frequently, if not generally, precedes a permanent one. Further on, he remarks that all cases of intercurrent squint do not pass into permanent squint. So long as this has not taken place, these cases would require some special remarks, from the point of view of operative assistance. For this reason von Graefe mentions them. But he has obviously also felt that the symptoms incident to these cases had a peculiar significance as

regards the investigation of their pathogeny; at least, he considers, from a pathogenetic point of view, the three following categories distinguished by himself:—

First Category comprehends those patients whose eyes, while in a state of repose, show no appreciable deviation; but do so the moment they fix them steadily on a certain object, whether it be near or remote. Von Graefe thinks there is a possibility that a cause of disturbance might result to binocular vision from the deviating eye; and that, therefore, its image might be voluntarily deviated. That, in this way, a permanent squint might possibly arise is plain—Von Graefe does not, however, consider everything as hereby explained. “If the deviation manifests itself only under certain conditions, for instance, in the case of a vivid perception of the images on the retina, and not where this fails, one must suppose the existence of some link between the act of vision and the muscular movements” (von Graefe, l. c., p. 281); and again—“if this latter is not the disturbance of the images on the retina of either side, then, in the next place, the circumstances of the accommodation present themselves for investigation.”

With respect, however, to the first mentioned supposition, von Graefe remarks that the one eye deviates while intently regarding an object at any distance, and even when the hand is placed before it; and whilst it did not occur to him, with respect to the last mentioned case, that hypermetropia might account for it, so he knows no other explanation to give save the following somewhat obscure one:—“Every act which has for its aim the exact perception of objects throws on the altered muscle the incentive to abnormal contraction.

Second Category comprehends those cases in which, up to a certain point (eight inches, a foot, four feet), the axes of vision have a normal direction, whilst beyond that distance a striking deviation is manifest. Such cases are generally connected with myopia.

Third Category comprehends cases of which he says “that the pathological convergence appears only in the case of accommodation for near objects. The symptom appears just as well marked when the squinting eye is covered, and must, consequently,” he says, “have its origin in the condition of the accommodation, probably in an increase of the resistance of the muscles, accompanying an increased state of the refraction of the eyes. The increase of the tension of the muscles,” he continues, “arouses the slumbering impulse to abnormal contraction in the affected muscle.”—He further refers to the peculiar cases in which, while looking at near or distant objects, converging strabismus arises; but in which, when looking at objects at a moderate distance binocular vision is preserved. He explains this as partly due to myopia; but frequently both presbyopic and hyperpresbyopic patients belong to this category; myopia in distans sometimes too appeared to exist. He sums up as follows:—“A feeble degree of

pathological convergence of the lines of vision, corresponding to the natural tendencies to straining of the muscles, exists, for all and every distance of the object. If the refraction of the eye be augmented, either by bringing the object nearer or holding up a concave glass, then the morbidly increased contraction commences; for moderate or short distances, and relatively large retinal images, the prevailing tendency of the muscles is, in order to preserve single vision, resisted; for a greater distance, the retinal images decreasing in size, this no longer happens, and double images arise which, owing to an abnormal contraction of the muscles, appear at greater distances from each other."

Finally, Alfred Graefe,²² in a case of intermittent squint—called also, but less correctly, "spastic squint"—asks himself the question whether "It is the circumstances of accommodation which occasion the deviation of the right eye?" and replying to it as follows:—"Certainly not; for it has been expressly pointed out, at the commencement of this chapter, that the deviation always commences as soon as an object has been steadily looked at, and consequently it is totally independent of the state of accommodation prevailing at the time"—convincingly proves that he did not think of hypermetropia, which itself requires a straining of accommodation while looking at distant objects

From all this, it is evident that hints were not completely wanting in literature, tending, after the slighter degrees of hypermetropia were detected, to connect it with strabismus.

III. DIVERGING STRABISMUS.

Diverging strabismus depends, as a general rule, on myopia. At the commencement of my statistical researches I was already aware of the relations which existed between hypermetropia and converging strabismus; but I was very far from supposing that there was at all the same intimate connexion between diverging strabismus and myopia. It was systematic investigations alone that brought this fact first to light.

The nature of the relation is not altogether the same in both cases. If hypermetropia determines the converging squint, it is because the anomaly of refraction requires great efforts of accommodation. When diverging strabismus arises in connexion with myopia, then the anomaly of refraction as such, is not altogether without direct influence, but the chief cause of the deviation depends on the distension and change of form of the globe of the eye. When myopia exceptionally occurs, owing to a flattening of the cornea, strabismus is not to be looked for. Since Arlt²³ demonstrated, by anatomical researches, that ordinary myopia depends on the extension of the membranes of the posterior portion of the globe, and the lengthening thereby of the optic axis, this important fact has been generally admitted as correct. All the diameters of the globe are increased in myopia, but especially that which corresponds to the optic

axis; it follows that the globe has a tendency to take the form of an ellipsoid, of which the major axis is the optic axis. These large diameters may diminish the mobility of the eye in general; this is especially caused by the ellipsoidal form, which opposes a much greater resistance to its rotation on its minor axes in the interior of a cavity of the same shape, because this demands a change of form. The centre of motion is not only at a distance from the anterior, but also from the posterior pole of the eye; its position is not very unfavourable.

The researches which I made conjointly with Dr. Doyer, establish that the centre of motion is situated behind the centre of the optic axis, so that the portion of this axis situated in front of the centre of rotation is to that behind, as 15 : 11. (*Vide* the annexed table given from the French.)

TABLE of the mean obtained by the examination of 19 emmetropic eyes.

19 myopic eyes, $M = 1 : 16$ up to $M = 1 : 2.25$

12 emmetropic eyes, $H = 1 : 16$ „ $H = 1 : 3.75$

Mean length of the visual axis		Situation of centre of motion				Angle α between the axis of cornea and line of vision
		Behind the cornea	In front on the posterior of the sclerotic	Proportion per cent.	Behind the middle of the visual axis	
Millimètres		Millimètres			Millimètres	
E	23.53	13.54	: 9.99	= 57.54 : 42.46	1.77	5°·082
M	25.55	14.52	: 11.03	= 56.83 : 43.17	1.75	2°
H	22.10	13.22	: 8.88	= 59.8 : 40.2	2.17	7°·55

About the same proportions, however, were also found in the case of the longer axes of myopic people; here, consequently, the centre of motion lies further away from the posterior surface of the sclerotic. The excursions are therefore, in these cases, for equal degrees of rotation larger, and the movements necessarily limited; this limitation would be still greater were not the entrance of the optic nerve, on account of the disproportionate extension of the external posterior portion of the segment, moved further inwards, and thus removed considerably less from the centre of motion. To this limitation, moreover, the greater distance between the centre of motion and the insertion of the muscles may help to contribute, to which distance, the arc of rotation, obtained with a given shortening of the muscles, stands in inverse proportion.

Apart from the consideration of all this, the elongation of the axis of the eye gives of itself a sufficient explanation of the diminution of the movements of the globe; this latter affects the movements inwards as well as outwards. With myopic people it is so general that out of seventeen eyes examined, nine could not turn themselves sufficiently far so as

to bring, without modification, our method for ascertaining the centre of motion, into use—a method which requires an excursion of not more than 28° inwards and outwards. Diminished outward motion of the eye is primarily of no further consequence than that the lateral excursions of the eye, for binocular vision at a distance, are smaller, and that to obtain it, assistance, by turning the head, must be sought, a thing which is, however, always necessary when spectacles are worn; but insufficiency of motion inwards has other and more important consequences which we must consider consecutively, so as finally to see absolute diverging strabismus appearing as its ultimate result.

We take it for granted that there is an insufficiency of motion inwards, when the lines of vision cannot be brought to intersect at a distance of $2''\cdot5$, at which they cut one another at an angle of about 51° . In high degrees of myopia this insufficiency pretty nearly always exists, and to account for this a two-fold reason may be given. In the first place, the mobility is in reality impaired in consequence of the extension and altered form of the globe, and consequently the insufficiency may be considered absolute; but, in the second place, in consequence of the smallness of the angle α the axes of the cornea must, in order to make the lines of vision intersect, in the distance of $2''\cdot5$, be made to converge still stronger than in the case of emmetropic eyes; hence we see that motion inwards must be at least relatively, if not absolutely, confined.

The insufficiency of which we are here speaking leads, in some cases, to wearisomeness of vision, when the nature of the work requires for a lengthened period a certain amount of convergence (asthenopia muscularis).

I have met with some cases in which, in the first instance, vision was binocular; but when the one eye became fatigued it deviated, and then the vision could be continued with facility; others in which this deviating was felt as an annoyance, and gave rise to complaints. I found this latter occur when the degree of myopia was comparatively small, and where, in addition to the muscular resistance of the eye, a certain weakness of the muscles (not merely insufficiency of motion, but actual insufficiency of the internal recti), had to be assumed, a condition which I have observed to be hereditary in cases of moderate degrees of myopia with the before-mentioned symptoms. This deviation, produced by the continuous effort to enjoy binocular vision, is the first degree of relative diverging strabismus. The lines of vision intersect each other normally for great distances, but for objects close at hand one eye only is used.

Relative diverging strabismus is here considered as a consequence, and, in some measure, as a further development of the insufficiency of motion inwards; this is true up to a certain point. If we try, however, to define this relative squinting, it then appears that it is inseparable from high degrees of myopia; and that even if, in such cases, motion was not limited,

the squint would nevertheless be present. Relative diverging strabismus takes place, in fact, when the close proximity of an object which one wishes to see distinctly, excludes binocular vision; it consequently makes its appearance, even in cases of unlimited convergence, the moment that the farthest point of distant vision lies nearer the eye than the point which can be reached by the strongest convergence. In this sense, when the myopia for example is greater than $\frac{1}{2}$, relative diverging strabismus is necessarily present, one eye is certainly (cases of converging strabismus excepted), if the person at the time sees distinctly without glasses, always directed outwards.

From what has been stated it will be seen that relative diverging strabismus may arise, on the one hand, in cases of considerable insufficiency of the internal recti, myopia being completely absent; and, on the other hand, in cases of high degrees of myopia, without any insufficiency of the muscles. The fact is, it occurs in its most important forms, when myopia and insufficiency of the muscles are both present in a moderate degree. Myopia may be considered as the starting point. If it be wanting the muscular insufficiency will only lead to muscular asthenopia, and will seldom develop itself into diverging strabismus. If myopia be present, then a number of circumstances conjoin to bring on relative diverging strabismus, and by this very means prevent muscular asthenopia.²⁴ The explanation is simple, and has already been given when treating of muscular insufficiency; myopia requires a greater convergence of the lines of vision, because the object of sight lies nearer the eye, and it is exactly in myopia that convergence is, for two reasons, more difficult: first, because of impeded motion, and secondly, because of the altered direction of the line of vision (the smaller angle α). That relative diverging strabismus chiefly occurs in cases of myopia is herewith explained; to this must be added, that the want of binocular vision and the aversion to double images furnish, in this instance, no considerable counterpoise. It is generally some small object that a myopic person wishes to see distinctly; this object he brings close to one eye, while the other eye is directed towards some remote object which, in consequence of the myopia, present very diffuse, and hence, only slightly disturbing images. If the act of vision occurs with one eye turned aside, then so much the less will there be a strong tendency to convergence, because then the distance of R (the far point of distinct vision) at once becomes smaller, and the object must consequently be held still closer to the eye. It is precisely in cases of difficult convergence that the combined efforts of accommodation become particularly great.

In progressive myopia we often see how that binocular vision tries to maintain itself in opposition to relative diverging strabismus; but the fatigue which is always increased by the exertion, causes it for the most part constantly to succumb. Reading, for example, commences

binocularly; but after a little, one eye turns away, involuntarily and unconsciously, so that one is told that one page shifts itself over on the other; numerous transitions may be proved. If an object be brought closer and closer to the eyes, then the convergence increases almost to its maximum; and if the object remain so, then the one eye turns off the more quickly in proportion as the object was brought nearer to the maximum of convergence. This will equally occur in cases of strong convergence, when the one eye is covered with the hand; and, if the covering hand be removed, the convergence nevertheless continues. Even when the object is brought close to the one eye, whilst the other, still kept open, is covered with the hand, a sufficient convergence is but rarely effected; the effort to maintain binocular vision, begun at greater distances, was the condition on which the convergence was effected. It is not to be found even in the case of a relative diverging strabismus which has become permanent. As an instance of a transition to this latter, it is observed that when the eye is fatigued, convergence is absent, but shows itself whenever it is restored by repose.

Between periodic and permanent diverging strabismus there exists still another condition of some practical importance to which I have already called attention.²⁵ In it there still exists a tendency to convergence, this is seen by approaching an object near the eye; but before the farthest point of distinct vision is as yet reached, or at the least very soon after, the one eye turns away. In such a case, by the assistance of a concave glass, the object is once more seen with both eyes; frequently, however, complaints of fatigue coming on will now be heard; and experience teaches to look for its cause, not in the effort of accommodation, but in the requisite convergence, even if this be comparatively slight; consequently muscular asthenopia is in existence; and here, in order to make binocular vision possible, the combination of prismatic with the concave glasses becomes necessary. In such cases it is particularly obvious that we must seek for the cause of the relative diverging strabismus in the impeded motion inwards, whilst the tendency to use both retinae for the sake of binocular vision may continue undisturbed. It is only in the case of an absolute diverging strabismus that this tendency, as will appear, is not unfrequently lost.

We have seen above, that in progressive myopia binocular vision of near objects, can only with great difficulty be retained. There are, however, exceptions. According to von Graefe—"an energetic co-operation of the internal recti is consequent on relative myopia;" he even goes so far as to assert, that it is to be regarded as a *pathological condition* "when the contractibility of the internal recti does not progress harmoniously with the increase of the refraction (myopia)." ²⁶

Indeed, even in cases of high degrees of myopia, whether in consequence of a favourable size of the globe of the eye, or in consequence of an

original or acquired preponderance of the internal recti muscles; the lines of vision may sometimes, while looking at near objects, be correctly placed, and may, without much effort, be kept in that direction. This mostly happens at the expense of mobility outwards. A limitation of mobility is, in such a case, never wanting, and it may reach such a degree, that in looking at distant objects the lines of vision cannot be brought into a parallel direction; relative converging strabismus will now present itself. The cases mentioned at page 9 have had their origin alluded to; even in these cases convergence is not sufficient, and then the strange combination arises of relative diverging strabismus while looking at near objects, and of relative converging while looking at those which are distant; whilst looking at moderately distant objects binocular vision is retained. This reminds one of the combination of myopia with presbyopia; all such cases, however, are exceptional. The rule is, that facility of convergence does not keep even pace with the development of the myopia, and that, in a very short time, the tendency to relative diverging strabismus becomes perceptible. I convinced myself, by investigations, that in myopia, if it commences with parallelism of the lines of vision; mobility inwards is generally, in the majority of cases, diminished,²⁷ whilst the mobility outward suffers no diminution whatever; nay more, the lines of vision, under the influence of a prism, can usually be brought to a greater divergence than in the case of non-myopic people. It would appear as if convergence was easier on the part of myopic people, since with them, according to my determination of the relative extent of accommodation, certain degrees of convergence are possible, without a proportionate effort of accommodation; herein, however, there is no absolute proof. We should simply learn from this, that by practice, the movements of accommodation can isolate themselves to a certain extent from the efforts of convergence, and make themselves apparent only in cases of high degrees of myopia.

Absolute diverging strabismus is characterized by divergence of the lines of vision when viewing distant objects. While looking at objects close at hand, the divergence sometimes remains unchanged; sometimes it diminishes, or even gives place to a convergence of the eyes, this not being sufficient however; binocular vision is, in such cases, destroyed. I have observed in a few instances, that while looking at very distant objects, divergence existed, but that while regarding objects only a few feet or inches distant, this gave way to a sufficient convergence, which, however, could not be long retained. The fact is one worthy of notice; it may be explained by the circumstance that binocular vision is of much greater importance in judging of near than of distant objects. At first diverging strabismus is generally but little marked, and it increases but slowly; sometimes it will continue but slightly marked throughout one's whole life. It has appeared to me as if there was another origin, in addition to myopia, for the higher degrees of strabismus.

It is only the more absolute forms of diverging strabismus which are designated by the name squint; in this sense it is much less oftener met with than converging strabismus. Now, although here, as in converging strabismus, a certain number of cases must be referred to primary disturbance of the muscles (paralysis, inflammation, contraction, complicated congenital anomalies, &c.; a blind eye frequently also deviates outwards), yet myopia does not occupy the same prominent position as a cause of diverging strabismus, as hypermetropia does in relation to converging strabismus; at the same time, however, myopia is found in about two-thirds of the cases of absolute diverging strabismus. If we add to these cases those of relative diverging strabismus, then the diverging form of squint is quite as frequently met with as the converging, if not even more so, and the extraordinary causes, proceeding originally from affections of the muscles, or from blindness of one eye, retire completely into the back ground, for in at least ninety per cent. of the cases of relative diverging strabismus, myopia is found. It has often been remarked, that while converging strabismus is chiefly to be met with in children, diverging strabismus but rarely occurs until much later in life. The observation is correct; the fact is closely connected with the cause of its existence—*progressive myopia*.

Now, although absolute diverging strabismus is, as a rule, chiefly developed out of relative, yet in by no means every instance does the absolute follow the relative; the reason of this lies in the circumstances we have mentioned; and it seems indeed to be rather the exception. We find here, as in converging strabismus, a similar relation to the cause. Thus as the majority of hypermetropic people remain free from it, so it is also certain that many myopic people will be found with relative diverging strabismus, and yet the absolute form never developed therefrom. Here, then, the question likewise arises—what collateral circumstances operate to produce the true absolutely diverging strabismus?

Perhaps we shall be able to invert the question, if we, in the first place, reflect—why the relative distortion, in general, disposes to the absolute. The result of this examination may be thus formularised.

Relative diverging strabismus determines the formation of different images on the two yellow spots of the retinae, at least in the case of close vision. The great desire that these impressions should correspond—the struggle for simple binocular vision, must, in general, be thereby very much weakened. A deviation commencing at the first attempt at convergence, at once becomes considerable, whilst the individual simply yields to the muscular impulse; perhaps this occurs, too, in order to remove (however unconsciously), the double images further from each other, or even to exclude the effort of accommodation, which is associated with troublesome convergence, and thereby remove the limit of distinct vision to a greater

distance from the eye. If, for example, in the case of blindness of one eye, the internal recti are no longer strained for the purpose of seeing near objects binocularly, then these muscles, on account of their diminished energy, lose the power of moving sufficiently, and the usual consequence is a diverging strabismus. Now, relative diverging strabismus induces a similar inactivity, the result likewise of impaired energy; these two important factors meet together, viz., slight resistance to double images, and diminished vigour of the internal recti.

It cannot, therefore, appear strange that the movements of these muscles, even in the case of distant vision, soon cease to be efficient. This must still more be the case in myopic people, in whom the angle α is particularly small, and where, consequently, distant vision requires a smaller divergence of the axes of the cornea than in emmetropic eyes. When once the action of the internal recti is weakened, the effort, which must be made, to overcome the tendency to divergence will easily bring the point of farthest distance nearer to the eye, making the images of remote objects on the retinae thereby more diffuse; so that, instinctively, the effort will either not be made or be discontinued.

The origin of absolute diverging strabismus is hereby satisfactorily explained. Unless I am mistaken, we must now, as I foresaw, invert the question as it was put above; we no longer ask—what are the concomitant circumstances which operate to bring on absolute diverging strabismus, presuming relative diverging strabismus to be already in existence? but we inquire—why it is that every relative diverging strabismus does not lead to absolute strabismus?

In the first place, I would remark, that even absolute diverging strabismus is very commonly met with (as indeed it appears every day more plainly) in cases of a high degree of myopia, much more commonly than is at all imagined. Slight degrees pass by unnoticed, because although in them the lines of vision diverge, yet the axes of the cornea show no particular divergence, sometimes even less than in non-squinting hypermetropic people. It is only when the properly directed eye is covered, that it appears that the line of vision of the other eye was directed too much outwards. I repeat, however, the question—wherefore is it that every relative diverging strabismus is not followed by absolute strabismus?

The cause thereof is partly to be attributed to the tendency to preserve binocular vision; although, in consequence of the relative diverging strabismus, the desire for the same impressions on the two yellow, and further corresponding spots, has been weakened, yet it has not been destroyed. In some cases it is this desire for binocular sight that alone resists the deviation. In many people the one eye will actually turn outwards behind the covering hand; and when this is removed, again resume its proper position; and, where the deviation does not take place, the

application of a weak prismatic glass, with the refracting angle turned towards the nose, will be sufficient to convince us of the struggle to maintain binocular vision. It is only in cases of the highest degree of myopia, in which not even well marked objects form comparable images, that, during this experiment, convergence fails to appear. From this it is manifest that sharp sight is not an absolute condition, even when the wish for single vision is clung to with the very greatest tenacity.

We look, in the next place, for the cause of the absence of absolute strabismus in limited mobility of the eyes; not only the inward, but sometimes also the outward rotation of the large ellipsoidal eyeball of myopic people is obstructed. This obstruction may go on so far that, as we have remarked above, when sharp vision, at a short distance, is required, relative converging may be joined on to relative diverging strabismus. If, however, it does not attain to this degree, it at least prevents an immoderate deviation outwards, especially where the desire to preserve binocular vision assists it.

Then, again, we find, just as in converging strabismus, various propelling and assisting forces opposed to each other; and it is, in fact, difficult to say under what conditions the former acquire the preponderance. Experience, at all events, has not, as yet, made us acquainted therewith.

Without any doubt, however, the following must be taken into account:—1. All those circumstances which facilitate motion outwards. 2. All those that lessen the importance of binocular vision. Among the former we reckon an original preponderance of the external recti; greater displacement of the lines of vision than is usual as a consequence of myopia (unusually small, or even negative value of the angle α); further, a form and superficial position of the eyeball, favourable to outward motion. Among the latter may be reckoned diminished sharpness of vision of one eye, and above all, difference of refraction in the two eyes; this last-mentioned is a factor of great importance. If the difference in refraction is great, one strong, the other emmetropic, or very slightly myopic, then it is, perhaps, the rule that in looking at distant objects the myopic eye is distorted outwards. These cases furnish a peculiar kind of diverging strabismus, which, most decidedly, deserves to be thoroughly investigated, and specially described. Sometimes, in such cases, the squinting, especially at the commencement, is intermittent, and only shows itself either when the eye is weary, or during certain mental conditions; at other times it can be overcome, although strongly developed, by an effort of the will, particularly while looking, for an instant, at near objects, but not without being speedily followed by a sense of fatigue, and the sight receives no essential advantage thereby. Not unfrequently, also, the one eye is used for looking at distant objects, the other in close vision; each eye, for the most part, projects, and judges rightly, as long as it sees

independently; and this, notwithstanding the constant assertion that the same object seen with the one eye, appears larger, and when seen by the other smaller, than it really is. There are still many curious facts to be related on this subject which merits well to be investigated. As to its pathogeny, with which alone, in fact, should we, in this place, be concerned, it is easy to perceive that, in the first place, binocular vision is not, in such cases, of much value; *secondly*, that the double images of ordinary objects (especially in seeing at a distance), are scarcely noticed, and it is consequently easy to abstract oneself from the impression of the strongly myopic eye; *thirdly*, that the limited mobility affects, in this instance, only the one eye, and a relative deviation outwards, must consequently be attended with less inconvenience; and *lastly*, that as soon as a slight exertion of the internal recti is required, in order to prevent divergence of the lines of vision, such exertion will necessarily not be forthcoming, because the slightly myopic or emmetropic eye, which sees objects distinctly at a sufficient distance, loses, in part, this faculty, in consequence of the combined effort of accommodation.

It is known that Buffon was the first to seek to determine the cause of strabismus to be a difference between the two eyes.²⁸ He has defined this in a manner sufficiently vague, in the following terms:—"Une inégalité de force dans les yeux." There can be little doubt but that by this he wished to express a difference in the state of their refraction; but, in his researches on strabismus, he evidently, more than once, confounds this difference with that of sharpness of sight. He attempts to demonstrate that unequal impressions of the same objects, on the corresponding points of the two retinae, are more troublesome than images of objects altogether different (and, under certain circumstances, this may be the case), and that this is the reason why one of the eyes instinctively deviates. Buffon, in so writing, had in view, particularly, I might almost say exclusively, converging strabismus; but, towards the close of his memoir, he speaks of other cases, "where one eye was employed to look at distant, and the other at near objects, and where the one that remained unemployed, deviated, sometimes inwards, sometimes outwards." Moreover, Buffon supposes that to whatever extent the field of accommodation of the two eyes may coincide, even when their limits are partially different, both eyes can receive sharp impressions of the same object, so that the effort of accommodation of each eye, independently of the other, can be regulated according to the distance of the object. On this error a great deal of his demonstration rests.

Joh. Müller, while he admits the fact, is not satisfied with the explanation given by Buffon. He proposes another²⁹ very remarkable, because he assumes, for the purpose, a disturbance between the convergence and accommodation of the eyes. We do not find in Müller's work any dis-

inction made between presbyopia and hypermetropia; he does not even distinguish whether it is convergent or divergent strabismus which he means to explain; in this way it was not possible to consider the question properly. But we find mention of an experiment which consisted in determining convergent strabismus, by placing a concave glass before one of the eyes, and then making the person regard steadily a fixed object; an experiment which explains those exceptional cases of convergent strabismus in which the correctly directed eye is hypermetropic, whilst the deviating eye is somewhat less hypermetropic; even, perhaps, emmetropic, but originally amblyopic. If Müller had placed negative glasses before both eyes it could not have escaped him but that there was an easily caused deviation inwards, and perhaps, with his penetrating glance, he would have, on the moment, recognised the nature of hypermetropia and its relations to strabismus.

The inequality of any two eyes, with respect to their sharpness of sight, or their refraction, as a case of squint, has been too much regarded by some,³⁰ too little by others.³¹ I think I have proved that this inequality is not the immediate cause of strabismus, but, that it may become a cause thereof, under the influence of certain determining conditions existing in the non-deviating eye.

The connexion which exists between binocular myopia and diverging strabismus, has not been passed over altogether without notice. Joh. Müller even writes of strabismus of myopic people (*strabismus myopum*)—"Every one knows," he says,³² in commencing an explanation of the mode of the origin of this strabismus, "that myopic people only use one eye when they look at near objects; while the other eye, also myopic, and its axis of vision obliquely deviating and directed towards distant objects, either sees not, or very indistinctly." This answers to the form which we have called relative diverging strabismus; it had already been described by Buffon, as occurring in his own eyes. In his own case he explains it by the difference of the images perceived by the two eyes; but, in general, he places the cause in the unusual convergence of the eyes required in myopic people. "The sight is fatigued and less distinct," he says, "than when but one eye is used." To this cause Müller gives the first place; but he mentions, in addition, that the refraction is augmented by the convergence of the eyes. However in explaining afterwards why the optic axis also permanently deviates, more or less, from the normal direction, he only refers to the disease of the one eye as a consequence of the deviation. Even then he does not say that the deviation is constantly outwards, and he based his demonstrations, in a great measure, on this erroneous opinion.

Ruete also speaks of the connexion between myopia and strabismus.³³ We have already seen, that whilst, in general, progressive myopia, of a high degree, induces relative diverging strabismus with a tendency to

become absolute; yet it is only exceptionally that the convergence persists in vision at short distance; but in distant vision, it is maintained at the expense of parallelism of the lines of vision. These exceptional cases, in which the convergent strabismus, relative convergent, if one will, is complicated with progressive myopia, have been noticed by Ruete; but he did not notice the more general cases. He failed to convince himself of the presence of relative diverging strabismus, because, without doubt, he searched for it in cases of too slight a degree of myopia, where it is ordinarily wanting.

In general one is but little satisfied when one consults the more recent but abundant literature of strabismus for to discover its etiology. In fact, for a long period, diverging strabismus has been completely neglected. A distinction of the various causes, according to the different forms, is not to be found, and each time that the etiology of strabismus, in general, is considered, it is evident that it is converging strabismus alone that is meant. I have yet only to allude to the writings of von Graefe, relative to the insufficiency of the internal recti, in the numerous modifications of which the gradual transition to diverging strabismus is to be sought, and, certainly, was sought for by von Graefe, and so we read in his last work:³⁴ "One might define insufficiency, in general terms, as a dynamic divergent strabismus, of which the degree varies, according to the distance of the objects, and which is temporarily overcome by the effort to see objects simply." We have only to recollect that this effort, in the myopic eye, becomes more and more enfeebled, for to perceive in some sort, that absolute diverging strabismus necessarily develops itself as an effort of myopia.

So our task is summed up in the following two propositions, whose antithesis is remarkable:—

1. HYPERMETROPIA DETERMINES ACCOMMODATIVE ASTHENOPIA, WHICH IS ACTIVELY OVERCOME BY CONVERGING STRABISMUS.

2. MYOPIA LEADS TO MUSCULAR ASTHENOPIA, WHICH IS PASSIVELY ELUDED BY DIVERGING STRABISMUS.

¹ Ametropie en hare gevolgen. Utrecht, 1860, bl. 30. Archiv für Ophthalmologie. Bd. vi. 1, S. 78 u. f.

² Archiv für Ophthalmologie. Bd. iii., Abth. 1, S. 308.

³ Tijdschrift voor Geneeskunde, 1860. D. vi., bl. 657. Archiv für die Holland Beiträge zur Natur—und Heilkunde von Donders und Berlin. Bd. ii., S. 453.

⁴ Archiv für Ophthalmologie. Bd. vi., 1, S. 92.

⁵ Verslagen en mededeelingen van de koninglijke Academie van wetenschappen. D. xi., bl. 159.

⁶ Archiv für Ophthalmologie. Bd. i., 1, S. 110.

⁷ Zur vergleichenden Physiologie des Gesichtssinnes. Leipzig, 1826. S. 230.

⁸ Archiv für Ophth. Bd. i., 1, S. 435. Ibid, S. 105. Neither am I convinced by the cases which Dr. Alfred Gräfe gives in his clear and concise work (Klinische

Analyse der Motilitätsstörungen des Auges. Berlin, 1858. S. 228). I see that Arlt also considers the existence of strabismus incongruus as problematical (Die Krankheiten des Auges. Band iii., S. 320).

⁹ Priestley, Geschichte der Optik, übersetzt von Klugel. Leipzig, 1775, S. 408.

¹⁰ Archiv für Physiologie. Heilkunde, 1842, S. 590.

¹¹ Von Graefe's important observations on the changes in the projection of the optic axes in strabismus have given origin to numerous treatises on binocular vision, in which Müller's theory of identical points has been controverted. What has been written above is so closely connected with this subject that I cannot refrain from briefly giving my opinion on it.

It is necessary to distinguish between *the projection of the field of vision* and the projection of a point in that field (*vide* Holländische Beiträge z. d. Anatom. and Physiolog., Wissenschaften, 1848, t. 7, p. 105 and Seq.) The projection of the field of vision depends on the position of the eye, and on the direction of the line of vision which we assume to be at command. To what part of the so projected field of vision we further project a certain point is decided by the spot which its image occupies on the retina.

In myopia, the image on the retina is larger than what it would be in an emmetropic eye, the angle being the same, and this in proportion as the distance between the optic centre and the retina is greater; but, on the other hand, the retinal surface is larger, owing to its extension. In cases where these two factors compensate each other the projected images on the retina might preserve the same size; but in consequence of the disproportionately large dimensions of the posterior pole in very advanced myopia, an object seen by direct vision will be projected smaller than before the extension, *i. e.*, smaller than in a normal eye. Nevertheless, in regarding an object, its size can be correctly estimated, and its limits at once accurately defined by the finger. If the lines of vision be directed one after the other towards the outlines of an object, the change which is made in the relation between the necessary muscular contraction and the projected dimensions of the object are not betrayed by any apparent displacement. When one looks at different objects—through spectacles with concave glasses—alternately by moving the head, such an apparent displacement really takes place; and if this is not observed on moving the eyes, it is to be attributed to the fact that the disturbance of the connexion between the projected size and required motion is compensated for by the deviating direction with which we regard an object through convex or concave glasses.—From what has been said it appears that, in consequence of a displacement taking place gradually, by extension, a point of the retina is projected outwards in a direction different from its original one. Now if this direction can be changed for one and the same retinal element, so as in cases of displacement to preserve its relation with the other means of perception, then it is to be supposed that the direction in question is not a congenital one, but has arisen with the other means of perception.

In the same way, the projection of the whole field of vision may, in abnormal circumstances, be changed. In a certain equipoise of the muscles, an object looked directly at, lies straight before the eyes. If this position be changed—while we imagine the same equipoise to continue (for example in paralysis, after section of the inner or outer recti, &c.), we still project the object seen by direct vision as if it was straight before us, although it be placed laterally: therefore the *projection of the field of vision is false*. The consequence of this is, that double images arise in connexion with the other eye, which will be on the same side when the eye is deviated inwards, and crossed when it is turned outwards. If, however, the affected eye be used alternately, which is generally the case in diverging strabismus, it often learns by degrees, to find out the situation of objects, so as to distinguish properly its own impressions from those of the other eye, to project correctly, and to assign a very different position to the two

objects, which have their representation respectively in the yellow spot of each eye. The two yellow spots are, therefore, no longer projected towards the same points in space. In this case, even if we employ weak prismatic glasses, correcting only a part of the strabismus, there will exist double images on the same side as the corresponding eyes, of an object whose image falls on the outside of the yellow spot in both eyes.

That this may occur after tenotomy with incomplete effect is shown by a very instructive case reported by Dr. Alfred Grafe (work cited, p. 236). The reverse may also occur after a long-continued or congenital convergence of one eye inwards.

Herein lies the proof that in the case of an abnormal position of the optic axes each eye can learn for itself how to project its own field of vision in the right direction. Hence it follows that a projection of both fields of vision, the one over the other, may also be acquired, as a consequence of the seeking of corresponding representations in those two portions of the retina, susceptible of the most accurate perceptions, namely, the yellow spots. By projecting their impressions, the one on the other, other portions of the retina also acquire the power of corresponding, which they can lose at any moment, as it is not dependent on a fixed anatomical cause.

¹² *Ametropie en hare gevolgen.* Utrecht, 1862. Bl. 45. *Arch. f. Ophth.* Bd. VI., I., S. 92.

¹³ *Klinische Beobachtungen aus der Augenheilanstalt zu Wiesbaden.* Erstes Heft. Wiesbaden, 1861.

¹⁴ *Nederlansch Lancet*, 2 Ser, D. III., bl. 233. 'S. Hage, 1845.

¹⁵ *Lehrbuch der Ophthalm.* für Aerzte und Studierende B. II., S. 520. Braunschweig, 1854.

¹⁶ L. c. p. 537.

¹⁷ *Annales d'Oculistique.* 1855. T. xxxiii., p. 177.

¹⁸ L. c. B. iii., S. 312.

¹⁹ *Vorgl. de Haas, Geschiedkundig onderzoek omtrent hypermetropie en hare gevolgen*, 1862, p. 61.

²⁰ *Bohm, das Schielen.* Berlin, 1845. I follow here de Haas almost word for word, as he mentions that he has printed this part of his dissertation from my *Lectures*.

²¹ *Archiv. f. Ophth.* B. iii. Abth. i., S. 277.

²² *Klinische Analyse der Motilitätsstörungen des Auges.* Berlin, 1858. S. 222.

²³ L. c., B. III., S. 237.

²⁴ Thus we read also in von Graefe (*Archiv. für Ophth.*, B. VIII. S. 343):—"We have already mentioned above that myopia furnishes indeed an important, but not an absolutely preponderating contingent (to muscular asthenopia). The latter would doubtless be the case if those patients affected in a high degree by myopia did not pass much more quickly from the asthenopic condition into diverging strabismus than either hypermetropic or emmetropic ones.

²⁵ *Archiv. für Ophth.*, B. viii., Abth. I., S. 83.

²⁶ *Archiv. für Ophth.*, B. III., Abth. 1, S. 309.

²⁷ Still more particular inquiries are being instituted in reference to this subject—the mobility of the eyes—the maximum of convergence—the effects produced by prismatic glasses, &c., in their connexion with the axis of the cornea and the line of vision; also the mode of ascertaining the centre of motion for eyes in which the refraction differ, are being ascertained "by fresh investigations of one of our pupils, Mr. Schuerman, candidate in medicine," *aided to note in French translation*.

²⁸ *Sur la Cause du Strabisme ou des yeux louches.* Mémoires de l'Académie, 1743. *Histoire Naturelle*, Supplement IV., p. 416. Paris, 1777.

²⁹ *Vergleichende Physiologie des Ges.*, S. 228.

³⁰ Compare Böhm *Das Schielen*, l. c., and Arlt, *Die Krankheiten des Auges*, B. III., S. 306., u. f., Prag. 1856.

³¹ Compare Reute *Lehrbuch der Ophthalmologie*, B. II., S. 524.

³² L. c., S. 237.

³³ L. c., B. I., S. 226.

³⁴ *Archiv. für Ophthalmologie*, Bd. viii., Abth. 2.

On the Asymmetry of the Body^a of the Human Skeleton. By DR. A. STADFELDT. Read before the Meeting of Scandinavian Naturalists, held in Stockholm, in 1863. Translated from the *Bibliothek for Læger*. 5 Række, 8 Bind. April, 1864 By WILLIAM DANIEL MOORE, M.D., Dublin, M.R.I.A.; Honorary Fellow of the Swedish Society of Physicians, of the Norwegian Medical Society, and of the Royal Medical Society of Copenhagen.

WHEN, some years ago, I was engaged in making a series of measurements of infants' heads, my attention was drawn to a want of symmetry in their two lateral portions; I found that this was scarcely ever absent, and that it was often very considerable. I was at the time unable to discover the cause of the obliquity in question; it was not due, as I stated in an essay,^b to pressure during the birth of the head, as the asymmetry is uniform in its leading characters, independently of the direction in which the child is born, and of the position which it has occupied in the uterus. I had, moreover, met with the same asymmetry in the heads of children which I had occasion to examine in the dissection of women who had died in the commencement of labour, where, consequently, pressure could not have acted, and I finally suggested that the cause of this asymmetry must be sought at an earlier period, as I had seen it in the head of a six-months fetus.

I need not say how unsatisfactory it is to look for the cause of physical laws and their deviations in "freaks of nature." Though we must most frequently stop before we arrive at the first cause of nature's manifestations, still the human mind struggles to attain as nearly as possible to the solution of the question. It will, therefore, be understood, that the phenomenon alluded to subsequently engaged my thoughts to a great extent; and when I add, that I believe I have found the key to the explanation of this constant asymmetry in the cranium of the child, I hope I have created an interest in the matter which may attract attention for a few moments.

Fig. 1 represents the separated head of a child at full term, which I removed from the mother's body in dissection. After I had evacuated the brain through the foramen magnum, I immediately filled the skull carefully with gypsum, while the head rested on a cloth stretched over

^a Including the head and trunk as distinguished from the extremities. The word, in the original is "Axedeel," or axial portion; but I have thought it better, throughout the paper, to employ the term "body," adding this note in explanation.—TRANSLATOR.

^b Undersøgelser om Barnehovedet i obstetricisk Henseende (Investigations Respecting the Infant Head in an Obstetric Point of View). *Bibliothek for Læger*. 5 R., 3 B., 2 H. Reviewed in the *British and Foreign Medico-Chirurgical Review*, July, 1862; and in the *Monatsschrift für Geburtskunde*, Dec., 1863.

and lying on water, to avoid pressure. This head exhibits in a well-marked degree the characters of the asymmetry referred to. In briefly describing these I would say that the two lateral portions of the head are so placed against one another that the left half is pressed upwards and backwards—the right, on the contrary, downwards and forwards.

Fig 1.



On an external inspection of the head, we have, on the one hand, the part to the left of the point of the occipital bone, and on the other hand, the squamous portion of the right temporal bone, the right ala magna of the sphenoid bone, and partly the right condyloid process, fuller and more prominent than the corresponding parts on the opposite side. This deviation from symmetry is here very well marked, and I think every one will be able to see it. It may sometimes be less striking; but, I believe that any person with an eye for form, will discover it in a greater or less

degree in all childrens' heads. I must, however, observe, that the prominence in the right temporal region is difficult to observe in the living child, as the part lies so deeply and is covered by many soft parts; at the back of the head it will, on the contrary, be easily seen when viewed from above; for it will then be found that the left half of the upper angle of the occipital and the corresponding part of the left os bregmatis are more curved and prominent than the same parts on the right side. Moreover, in the places mentioned we shall most frequently find asymmetry in the frontal portion and the arch (lacunar) itself; here it is, however, more variable, and although it is connected with the deviation pointed out in the base and lateral portions of the skull, it is, I believe, more secondary, and is more under the influence of accidental circumstances.

Let us turn to the consideration of the skull in the adult, where, as is well known, asymmetry is very general—so general, that a distinguished writer on craniology (Lucæ) has said, “that a head is scarcely ever met with which can be called mathematically symmetrical.” This is, indeed, the case; but, in addition to the asymmetry which may be produced during life, by a premature synostosis in a particular suture, by unilateral muscular activity, or by morbid states of the brain and parts of the skull, it is most frequently possible to demonstrate a constant asymmetry, which has just the same characters as that described in the head of the new-born infant. We shall, in fact, find a greater fulness and prominence of the middle portion on the right side of the base and sides of the skull, and prominence on the left side of the occiput.

To understand the nature and origin of this asymmetry it is necessary to glance at the other parts of the body of the human skeleton, and especially at the spinal column. It will be seen that the spinal column forms, in the adult, a double sigmoid curvature, for the portions of the vertebral column which take part in the formation of the larger cavities of the body surrounded with bony parts (the thoracic and pelvic cavities), make a curve concave anteriorly, while the cervical and lumbar portions present a curve with the convexity forwards. Besides this curvation dependent on its mechanical relations, the spinal column has also, long since, been observed to present a lateral curve to the right in the thoracic portion, which, as it is stated (Cohen), passes into a compensating curvature in the lumbar portion, with the convexity to the left. In addition, there is often a curvation in the sacral vertebræ in the opposite direction. The pelvis too, is said (Schweighäuser) to be asymmetrical, the oblique diameter from the right sacro-sciatic notch to the left ilio-pectineal eminence being some lines greater than that from the left sacro-sciatic notch to the right ilio-pectineal eminence. These old, and in part very old, observations are perfectly correct. With reference to the spinal column it is, therefore, very rare to find a body in which we cannot

discover traces of this, we might almost say, normal scoliosis, especially when we direct our attention to the anterior surface of the spinal column; there we shall, in the dorsal vertebrae, rarely miss a curve to the right, with a frequently less evident rotation to the same side depending upon flattening of the vertebrae; in the lowest dorsal and in the lumbar vertebrae, on the contrary, we shall find a more lengthened curve to the left side, with a corresponding rotation of the anterior surface of the bodies of the vertebrae; and lastly, in the sacrum a rotation in the opposite direction. With this scoliosis in the sacrum the left ala penetrates farther into the pelvic space, the left sacro-sciatic notch is less deep, and, according to my experience, we must, in this fact, seek the cause of the diminution of the left oblique diameter of the upper outlet of the pelvis so correctly stated by the earlier writers. This report of asymmetry in the pelvis is, at least, so far correct, as in measurements I have most frequently met with the difference mentioned between the magnitudes of the oblique diameters, and only very rarely the opposite relation.

If we now refer the bones of the skull to the laws for the formation of vertebrae (Oken), and assume them to consist of three vertebrae, we shall be necessarily led to consider the asymmetry I have described as a scoliosis, the longitudinal axis being curved around the base of the skull. The scoliosis is not, it is true, so easily demonstrated here as in the spinal column, because it is spread over a greater surface; but if the eye has been made familiar with the leading characters of the asymmetry, and with the formation of vertebrae in the bones of the head, we shall find the designation correct. This is especially evident when we view the heads from below, where the posterior and middle cranial vertebrae appear so rotated that the part corresponding to the bodies of the vertebrae turns the anterior (here the inferior) surface to the left side, while the part of the posterior vertebrae corresponding to the arch (*squama ossis occipitis*), exhibits a curve to the same side. As it does in this head, the anterior portion of the base of the skull often also takes part in the rotation, and we then, in general, find a rotation in the opposite direction, so that the line from the middle of the lower margin of the upper jaw to the middle of the anterior circumference of the foramen magnum forms a slight curve with its convexity to the right side.

In this child's head the scoliosis is also distinct in the other parts of the cranium. Although we cannot everywhere demonstrate it by measurement, it is sufficiently evident to the eye. This is, however, far from being invariably the case with adult heads, or even in all infant heads. Only at the base and back of the skull can we always find traces of such a rotation.

There is, consequently, a normal scoliosis in the two principal parts of the body of the human skeleton, and these stand, as we shall see, in a

close relation to one another. This has, singularly enough, not been attended to, although, in my opinion, it supplies us with the only clue to the origin of the scoliosis. The connexion of the skull and the spinal column in the cervical portion is, in this respect, important; and, in fact, traces of scoliosis are seldom wanting there. Although the cervical portion of the vertebral column is too movable to admit of our assuming that the curves it exhibits in the dried skeleton have existed in the living body, even the consideration of prepared skeletons will lead our thoughts in the right direction. Thus, it is usually the case, that the two condyloid processes of the Atlas stand at different heights. This is enough to show that the axis in the connexion between the vertebral column and the head forms a curve, and not a right line. This is still further confirmed when we see that the surfaces articulating with the vertebral column at the base of the skull likewise stand in a different position both to the horizontal plane and to the vertical transverse plane through the head. From the skulls which I have examined, I have arrived at the result, that the right condyloid process of the occipital bone most frequently is both more prominent downwards towards the base, and is situated more anteriorly than the left.

This regularly occurring difference in the position of the two condyloid processes must necessarily be attended with a rotation of the cervical vertebræ, the anterior surface of the vertebræ being turned to the left side with a corresponding curve. It is, in fact, often easy to see this rotation in the bodies; and inferiorly in the two upper dorsal vertebræ the curve passes over into the opposite curve in the subjacent dorsal vertebræ.

By these considerations the connexion is established between scoliosis of the head and of the spinal column, and *the line of direction of the body of the human skeleton therefore forms an undulating line*, as in the annexed diagram.^a I suppose that we are viewing the body of the skeleton from the inferior surface of the head, and from the anterior surface of the spinal column, and we shall then, in the great majority of cases, find an undulating line with the corresponding rotation—to the left in the two posterior cerebral vertebræ and in the cervical vertebræ; to the right in the thoracic vertebræ; to the left, from a point varying from the sixth to the ninth dorsal vertebræ, and downwards; and lastly, in the sacrum, a curve and turning of the axis to



^a *a* Is supposed to be the anterior nasal spine of the superior maxillary bone. *b* The connexion between the head and the cervical vertebræ. *c* That between the cervical and dorsal vertebræ. *d* The transition from the dorsal to the lumbar vertebræ. *e* The sacrum.

the right side. In addition, there is often, as is indicated in the diagram, a slight inflection towards the left side of the anterior point of the line of direction; but we shall find many deviations in the last respect.

As I have shown that there is a scoliosis pervading the body of the adult skeleton, it is logical to infer that there *may* be a similar condition in the child, because the head, which participates in the scoliosis in the adult, exhibits the same asymmetry in the child as in the adult. I may also, notwithstanding statements to the contrary, assert that there is such. It is merely rather more difficult to demonstrate, because the proportions are so much less, and the change of form is, consequently, somewhat less distinct. I have examined a number of bodies of new-born infants, and in them all traces could be found of the scoliosis in question, in the upper part of the vertebral column, and especially in the thoracic portion. Even in a six-months fetus this was very evident. As to the inferior part of the vertebral column I cannot yet express a decided opinion, as the scoliosis is, in all cases, seldom so well marked there, and I must, therefore, leave it to further investigations to decide whether the scoliosis in that part is to be considered as having arisen later in life by way of compensation, or whether, as I at present believe, it also is congenital, though, as in the adult, not so well marked as in the upper part of the skeleton.^a Besides that, I have clearly seen the scoliosis under consideration in the bodies of children. The following circumstances are in favour of its existence:—If we hang a child's body up by the feet, the face almost always turns to the one side; secondly, we find that just as the two condyloid processes in the child's head differ in their position in the same manner as in the adult, the two condyloid processes of the Atlas also stand at a different height when the head is separated from the vertebral column. I must, however, observe, that these investigations should be made previously to drying, as the latter process has a very disturbing influence on the soft and movable infant skeleton.

I now enter upon the region of hypotheses, as I am about to endeavour to assign a cause for this predominant scoliosis in the body of the human skeleton, and in doing so I am obliged to go far back into fetal life, in fact, to the oscillations of the embryo in the ovum in the first weeks of its development. It is well known that the fetus after the first weeks exhibits a rotation around its longitudinal axis, so that its central part forms an elongated spiral from the left to the right side. During a certain period of fetal life this is very well marked; subsequently it somewhat disappears, but the trace of it can still long be found; and I have met with nothing to overthrow the hypothesis, that the *scoliosis pervading*

^a My continued examinations of the bodies of children, have led me to believe that this latter opinion is the correct one. The transition to the curve to the left begins at different points from the sixth to the ninth thoracic vertebræ.

the whole body of the skeleton is a remnant of the spiral rotation of the embryo in the ovum. On the contrary, this cause of the scoliosis in the skeleton will explain many peculiarities. By it we shall be able to understand why the scoliosis is most distinctly visible at the base of the skull and on the anterior surface of the vertebral column, because these parts, during development, are the first to acquire a firmer cartilaginous consistence, while the arches of the vertebræ, and especially the arch of the skull, have a more persistent fibrous condition, and therefore, during ossification, are more liable to modifications in their original form. Extraneous influences, the position in the uterus, pressure, &c., may thus acquire a certain importance; and we can thereby understand why these parts rarely present so pure a type of scoliosis as the infero-anterior surface. By this explanation we shall also be able to understand why the curves are most distinct in the upper part of the skeleton, for it is well known that this preponderates in the early stage of development, while the inferior part is shorter and less developed, and therefore, during growth, more easily effaces the traces of the axis-curvature.

I have here suggested a law for the line of direction in the body of the human skeleton, which may, perhaps, be modified in its several details, but the principle of which I believe to be incontestable, namely, that it forms a continuous undulating line. The transitions between the curves may vary slightly in their exact position, thus too, in the head, where, for example, the prominence on the left side of the occiput may be a little higher up or a little lower down; but a considerable deviation from the points of curvature assigned above, is very rare. We may often find skeletons where this undulating line can be demonstrated through their whole length; and there are extremely few skeletons in which we cannot, in one place or other—especially in the occiput and in the thoracic vertebræ—find traces of it; particularly when we have studied the change of form in the skeletons where it is perfectly well marked. Where, with reference to the frequency of the scoliosis in question I have spoken of “the great majority,” it is, of course, understood that the numerical relation cannot be more definitely expressed; for there are, perhaps, scarcely two skeletons to be met with where the transitions between the different curves occur precisely at the same points. Moreover, we find that it would be incorrect to overlook very peculiar skeletons, or, at least, parts of such, which, indeed, exhibit an asymmetry in the two lateral halves, but where this appears not to follow accurately the general law laid down. Whether this depends merely on the fact that the turning points of the spiral are removed to other situations, or whether a rotation in the body of the skeleton deviating from the normal is possible, time will show. However, this is not an argument against the cause assigned by me, as it has already been long known to physiologists (Erdl) that a disproportion between the length of the fetus and

the size of the membranes of the ovum, or, perhaps, other circumstances, may give rise to unusual turnings of the young human embryo.

The law here propounded is not of purely scientific interest, but is also of great practical importance, because it determines many physiological and pathological deviations from symmetry in the body of the human skeleton. Thus I might direct attention to the nose which is most frequently awry, to the asymmetry in the form of the face and chest, &c., as these phenomena are, at least, in part, dependent on the same law. But as I neither can nor will treat of this subject fully here, I shall, in conclusion, content myself with referring to some points which exhibit the importance of the law in a practical point of view. Thus, those who speak of a change of form of the head from pressure in the womb or during birth, must overlook this constant, often very considerable, asymmetry in the infant head; those too, must lose sight of it, who refer to an asymmetrical form of the head in the diagnosis of nervous and mental diseases. The law in question is, moreover, of the greatest importance as bearing upon the so-called habitual or spontaneous scoliosis. This scoliosis occurs, as is well known, in the dorsal vertebræ, the curve being predominatingly directed to the right side; the cases where it is directed to the left being only two per cent. The most varying attempts have been made to explain this fact, but none appear to me to be satisfactory. The case is far different when we go back to the inclination acquired in fetal life to a curve towards the right side in the thoracic portion. When other favourable circumstances coincide, the congenital structure must determine the direction of the scoliosis. Lastly, I shall dwell upon a point which has especial interest for me as an obstetrician, namely, the importance of the law with reference to the form of the asymmetrical rachitic pelvis. It has long been observed that such pelves are most frequently diminished in their left half, the promontory being pushed over to that side. It has been asserted that this is always the case. This is, however, not so, as I have seen a few pelves where the reverse existed; but still it is true of almost all pelves of this kind, and the cause of this is sufficiently evident. The promontory lies, in fact, about at the transition from a superior curve and corresponding rotation of the axis to the left side, and an inferior rotation to the right. When the osseous mass is softened and pressure acts from above through the long curve to the left, the promontory must necessarily be pushed inwards into the left half of the pelvis. How far the physiological scoliosis through the body of the skeleton bears upon the other deformities in rachitis and osteomalacia, I must, for the present, leave undecided.

CLINICAL RECORDS.

Case of Emphysema occurring during the Second Stage of Labour. By THOMAS PRATT, L.K. & Q.C.P.I.; Medical Officer to the Mountnorris Dispensary.

On the night of the 16th of May, 1864, about 11 o'clock, I was called upon to attend Mrs. H——, in her first confinement, she is a strong, healthy, well-looking, and well proportioned young woman, age twenty-two, and is over the middle size. When I arrived at her house, and saw her, it was about twelve o'clock; she then told me she had had slight labour pains all day. On making an examination I found the first stage of natural labour well advanced, the membranes protruding, and the os uteri fully dilated. At one o'clock the membranes ruptured, and a very large quantity of liquor amnii escaped; the labour pains then became brisk, but not very strong; they were of moderate duration, and everything seemed to be doing well and favourably until three o'clock in the morning, when she suddenly informed me that she could not see. She said, "I cannot open my eyes, and I cannot breath; I do not know what has come over me." This sort of information startled me; and on looking at her face I at once perceived it very much swollen. I found that it pitted deeply upon pressure, and crepitated audibly on pressure. Her neck was puffed up to double its natural size, and the skin covering the chest became a completely and rather tightly filled bag of air; however, labour went on, and about five o'clock she was delivered of a healthy male child. The emphysema extended over her whole body; her face could not be recognized by her mother or her attendant, and, had I had my midwifery forceps with me I would have shortened the duration of labour. After the child was born a binder was put on in the usual way, and on the evening of the 17th, a pair of stays, without bones or steel, was laced upon her, which made her feel very comfortable, and gave support to her in breathing.

On my next visit, on the 18th, I found the emphysema much reduced; she could then open her eyes about half. She lay on her back, which seemed to best agree with her feelings. On the 19th she was quite easy, the swelling and crepitation greatly diminished. Absorption went on from day to day, and on the 1st of June there was little to be seen of the emphysema, except upon the right side of the face, where it was still slightly present. And on the 10th of June, I am happy to say, she was quite as well as any healthy woman under ordinary circumstances.

The medical treatment was small doses of iodide of potassium, with slight friction over the face; but I do not know if either was of any service.

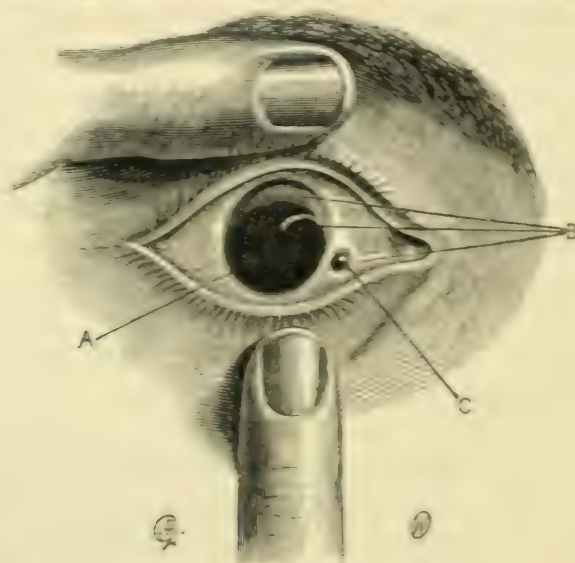
Since her recovery she had an abscess in her right breast, which had not, I think, any connexion with the emphysema.

Case of Injury of the Eye, resulting in Total Loss of Iris and Lens, with the establishment of a Permanent Fistula of the Sclerotic, nearly Perfect Vision being Recovered. By JOHN WILLIAMS, A.B., T.C.D., &c., late Surgeon to the Cork Eye Infirmary.

I must confess I hesitated some little time previous to writing the foregoing title to this case, for, although it has not been the first recorded case in which injuries of so grave a nature had been sustained by the eye-ball, still the recovery of such an amount of vision as that which the patient now possesses—notwithstanding the loss of such parts as are considered of such paramount importance to the integrity of the eye-ball as an optical instrument—not only stamps it as unique, but also invests it with surpassing interest.

I feel proud, therefore, to have been enabled to introduce the patient himself to the Cork Medical and Surgical Association,* and to give the Members an opportunity for careful examination of him.

Michael Haines, aged forty-six, the subject of this case, was under my care at the Eye Infirmary, for pannus, in the year 1852. I lost sight of him until the 22nd May, 1863, when he came to my residence for advice for “weakness of sight” in the right eye, the result of an injury; and for a speck on the left cornea, which, as it left the upper third of the pupil uncovered, materially interfered with, but did not completely hinder sight in that eye. On examination, which was rather cursorily made at first, the following appearances—which the subjoined woodcut, from a drawing by Mr. Humphrey Gillespie, can but imperfectly show—were presented by the right eye:—



A Clear cornea, all behind it presenting a black appearance.

B Dusky white cicatrix passing from the fistula in the sclerotic inwards to the cornea.

C Fistula in the sclerotic coat through which the vitreous humour proceeds.

* The subject of this most remarkable case was exhibited to the Members of the Cork Medical and Surgical Association, at their Meeting, March 23rd, 1864.

The eye-ball was misshapen, but was full, and elastic to the touch; the cornea, which was very irregular in outline, was clear and brilliant, save where it presented two whitish lines, which encroached on it as far as the centre, but which did not appear to intercept vision in the least. I must here remark that comparison with the left eye was very imperfect, as the latter presented—besides other traces of old inflammation—a leucoma on the cornea; all appeared black behind the cornea, no iris being visible; the colour of the left iris was blue, and contrasted much with the black appearance behind the right cornea. At the inferior part of the eye, towards the inner angle, and about three lines from the circumference of the cornea, was a fistulous opening in the sclerotic coat, which communicated with the interior of the globe. Through this fistula a piece of vitreous humour, about the size of a pin's head, protruded. When I made pressure with my probe on this globule of transparent humour, it receded into the depths of globe, but re-appeared when I pressed on the latter. This fistulous opening formed the apex of a conical elevation of the sclerotic, from which three or four dusky white cicatrices radiated—two, as before alluded to, through the cornea, and the other, inwardly and superiorly, through the sclerotic. The sclerotic itself, or white of the eye, was discoloured with dark blue and purplish spots, and had a few tortuous blood vessels coursing over it. There was external strabismus of that eye.

Having subjected the patient to a more careful examination with the ophthalmoscope, I could not find a trace of either the iris or the lens. A lighted candle held before the eye, and which did not appear to dazzle him in the least, caused but one erect image, showing also the absence of the lens. The orange field, presented by the back of the eye-ball and the retinal vessels, was clouded. I did not feel justified in renewing this ophthalmoscopic examination, however great my anxiety about the case may have been—as, for some days after it, he complained of unpleasant effects. It now appeared evident that the fistula, through which the vitreous humour protruded, marked the site of a rent in the sclerotic, through which the iris and lens had been bodily ejected. This rent or rupture was also evidenced by the whitish cicatrix which surrounded the fistula, and which radiated towards the inner angle of the eye, and also towards the cornea.

Notwithstanding the amount of injury sustained by the eye-ball, with the loss of such important structures, the sight of that eye is excellent, as the patient can see, *without the aid of a lens*, a single hair, pin, or other small object; and what is also most remarkable, he retains full power of adjustment of vision, for he can see the smoke issuing from a chimney 500 yards away; and by instantly directing his sight to a pin held before him, can tell what it is.

Previous history.—He had been head grinder in Perrott's Iron Foundry,

where, in the month of December, 1861, he sustained a severe injury in the right eye, from a fall on the handle of an iron plough. He suffered intense pain in the eye from the fall, and bled considerably. High inflammation set in, and the swelling of the eye-lids was so great that, for some days, he could not open the eye; when he could do so, he found he was perfectly blind in the eye, and some weeks elapsed before he "could discern day from night." Gradually, however, vision improved, and he was enabled to see his fingers, but "for a long time everything he looked at appeared red," and he was unable to distinguish the natural colour of objects until a great improvement in his sight took place. Absence from Ireland prevented my seeing him for a year after the injury.

October 3, 1863.—On this day I carefully examined him. His vision is steadily improving. He is enabled to engage in the duties of a porter, and in other occupations which do not tax his sight much.

March 22nd, 1864.—On yesterday I took the following note of this remarkable case:—I held a lighted candle before the eye, which, as I before remarked, caused no inconvenience whatever, and found I could illuminate the back of the globe—the orange field not, however, being as distinctly seen as by the light reflected from the mirror of the ophthalmoscope, the blood vessels of the retina could not be seen. When all light was excluded from the room this illumination of the globe occurred, but in a less degree. The glare of a cat's eye in the dark, or the phosphorescent appearance of fish, under the same circumstances, closely resembled the condition the eye then presented. On lighting the candle, and getting the patient to stand about six feet from it, he saw, when looking at it *without the glass*, "a great many lights," but when he approached within one foot of it he saw but one flame. I then made him use a No. 5 double convex lens, and *on looking through it*, at any distance from the candle, he saw but one flame. Although he can see a hair or pin with the *unaided* eye, still he finds the lens of much service to him when reading small print. If he look *directly* at any object, he invariably sees a "round white spot" before it, so that in order to see a thing clearly he directs his vision somewhat above, below, or to either side of it. When he uses the glass, the white spot, under any circumstances, does not appear. When he employs the glass, he holds it from a foot and a half to within a few inches of the eye, according as the object he is looking at is near or remote, large or small. He finds his sight much improved by looking through a perforated card, or piece of blackened tin, which his own ingenuity devised; but, save when he is reading, or is desirous of seeing a small object distinctly, he does not use the glass.

Remarks.—The following are the points connected with this interesting and unique case, to which I would direct special attention:—

1st. The apparent trifling deformity presented by the eye after so

serious an injury as rupture of its coats, with escape of lens, and total loss of iris also.

2nd. The wonderful amount of vision enjoyed by the patient *without the aid of a glass*, and the perfect power of adaptation or adjustment he possesses.

3rd. The fact that he is not dazzled by the brightest sun-light, and can use the eye with the same facility as if the iris were present. Although a lighted candle can be held, almost without any inconvenience whatever, immediately before his eye, still the function of the retina must be but little impaired when he is able to see so small an object as a hair without the aid of a glass.

Case of Excessive Vomiting in the Eighth Month of Pregnancy. By GEORGE H. KIDD, M.D., F.R.C.S.I.; Assist. Physician to the Coombe Lying-in-Hospital.

On the 30th of May, I was called to see a lady, residing at Sandy-mount, who had been suffering, for two days, from excessive vomiting. She was at the beginning of the eighth month of her third pregnancy. Her first terminated in abortion, at the end of the second month, induced, I believe, by excessive vomiting. I saw her, for the first time, at this period, and found the ovum escaping from the uterus. In the second pregnancy there was considerable sickness in the early months; but it at no time became so severe as to endanger her life, though, for a time, it caused great prostration. She went on, however, to the full period of pregnancy, and was delivered of a healthy child. In the present pregnancy there was no sickness till the end of the seventh month. When I saw her she had been sick for two days; the vomiting was almost incessant, occurring even on taking a spoonful of water, and very frequently without even this to provoke it; large quantities of green acid fluid were discharged, much more in quantity than had been swallowed; the colour was the bright green fluid, like chopped parsley, that has been found to be produced by blood, acted on by the gastric juice. She complained of great thirst, with acidity, and burning pain at the epigastrium. The bowels were confined, and there was very great prostration. I ordered creosote in two minim doses, with a quarter of a grain of opium, every second hour; mustard sinapisms to the epigastrium, and iced soda-water and brandy to be taken in small quantities, frequently. This seemed to procure relief for a few hours, but the vomiting returned with increased frequency, and nausea and great prostration. Dr. Jacob, of Maryboro', happening to be in the house, kindly saw her in my absence; he ordered solution of magnesia and aromatic spirits of ammonia, and afterwards prussic acid; but still the vomiting continued, and the prostration increased.

On the 1st of June I found the vomiting still going on, the bowels

confined, the sense of acidity, and burning pain at the epigastrium, and the thirst as before; the surface cold, the features pinched, the eyes sunken, and the pulse feeble. With a view to invert or rather restore to its proper direction, the peristaltic action of the intestinal canal, I ordered an aperient, and in a form that I have often found to be retained, and to act when no other would, namely, an ounce of sulphate of magnesia dissolved in six ounces of peppermint-water, of which I directed that a tablespoonful should be taken every hour. The iced soda-water and brandy to be continued, and cold beef tea and iced milk to be given in spoonfuls frequently repeated, even though it should be vomited off again. The abdomen to be fomented with hot water and turpentine. When I saw her again in the evening I found that no relief had been obtained, the stomach having rejected everything immediately on its being swallowed. I now ordered two draughts, each containing half a drachm of solution of morphia, hoping to procure her a night's rest; but they were both rejected, and she obtained no rest, the vomiting continuing all night.

June 2nd.—The prostration was so great that she was unable to move in the bed, and her husband implored of me to induce premature labour, which I promised to do if the symptoms did not soon yield, which I still hoped they would on getting the peristaltic action directed downwards instead of upwards. I now ordered a large turpentine and castor oil enema, to be given immediately, and to be repeated till the bowels were moved; and I directed a suppository, containing half a grain of the muriate of morphia, to be administered immediately after the enema had acted. A second enema was required before the desired effect was produced; the suppository was then given, and she slept for four hours; awoke refreshed, and with a desire for food, which she was able to take and retain. From this period convalescence was uninterrupted. She became able to eat and drink, and take abundant exercise; and on July 18th was delivered of a healthy male child, and has made a perfect recovery.

This was a somewhat unusual case of the vomiting of pregnancy, from the period at which it commenced, the violence of the attack, and the rapidity with which excessive prostration set in. As a matter of course, a suspicion of some cerebral affection, or of strangulated hernia, arose, but a careful examination afforded nothing to justify it. The vomiting of pregnancy is no doubt a reflex symptom, having its origin in some uterine or ovarian irritation. Cases are recorded in which some misplacement of the fundus, or inflammation, and even ulceration of the os and cervix, or false membrane between the fetal membranes and the uterus, have been found. The ovary, too, has been found to be the cause; but in most cases no morbid appearance can be detected after death, yet it cannot be doubted that the symptoms arise from some uterine or ovarian

irritation. The symptoms are of a twofold nature; first, there is inverted peristaltic action, causing constipation and vomiting, and secondly, under the influence of perverted nervous action morbid secretions are thrown out. The indications of treatment are:—1st. To exhaust for a time the excitability of the nerves proceeding from the lower part of the abdomen, so as to prevent their carrying to the spinal cord the morbid impressions which are reflected to the stomach; and this can be done, as physiologists are well aware, by over-stimulating them as by the free application of turpentine epithems. 2nd. To restore the peristaltic action to its natural order, to be accomplished by the use of suitable aperients, given by the mouth or by enemata. 3rd. To remove the uterine or ovarian irritation either by sedatives applied directly to the parts as by suppositories; or where there is evidence of inflammation applying leeches, or caustic, or other appropriate treatment, to its seat; and, when these means fail, and the prostration is so great as to endanger the patient's life, by inducing premature labour.

Obituary Notice.

ROBERT JOHNS, A.B., M.B., L.K. & Q.C.P.I., F.R.C.S.I.,

Died 11th May, 1864, aged 49 years.

To the long list of the medical men of Dublin who have recently been cut off from amongst us, we have to add the name of DR. JOHNS, who died on the 11th of May, after an illness of but a few days' duration. Dr. Johns was an active and energetic practitioner, and was well known to the readers of this Journal by his frequent communications to its pages. He was one of the original members of the Dublin Obstetrical Society, of which, at an early period, he was elected an honorary member, and one of the Honorary Vice-Presidents; and, on hearing of his death, the Council held a special meeting, at which they resolved, as a mark of respect for his memory, to adjourn the general meeting of the Society that had been previously announced.

STATE OF THE ARMY MEDICAL DEPARTMENT.

(Latest Intelligence.)

SINCE the article on this subject (at p. 163) was printed, the Indian Medical Service Bill there alluded to has, happily for the service, been rejected by the House of Commons. An article in the *Times* newspaper characterizes the bill very justly as "a curiosity of administrative perversity." "Sir C. Wood wanted good medical officers in India, whereupon he introduced a bill which would enable him to get bad officers. The Indian Service, guarded by a competitive examination, was in the position of a purchaser who wanted a certain article, and must have it of a good quality, but at the same time offered a price less than such a quality could fetch in the open market. It was an inevitable result that the Service could not get what it wanted. Upon this, the thing to do was simply to offer the fair price; the thing not to do was to give up the necessary quality, and this was what the proposed bill did."

Deputations from the British Medical Association have waited, within the last fortnight, upon the Secretary of State for War, upon His Royal Highness the Commander-in-Chief, and upon the Director-General. In plain and clear terms the claims and grievances of the Medical Military Service were laid before them. The deputations were received civilly and politely, of course; but their protestations were in vain. From Lord de Grey they heard that it was his belief that an organized agitation existed among the medical officers of the army, which it was the duty of the Government to resist—a statement which we believe to have no other ground than that our military brethren have made a justifiable appeal to the profession at large through the columns of our cotemporaries. From the Commander-in-Chief, they heard that the granting to the surgeon his rightful position, according to his rank, would be an interference with *discipline*; and from the Director-General—we blush to write it—they heard that *third class* men were sufficiently good for the requirements of the Service, and that he would consider himself at liberty to supply the wants of the army from the list of acting assistant surgeons, which, as the Deputy Inspector General pointedly states, in the letter we have already reviewed, have come in through the "back door" of the department.

Our readers will scarcely credit our statement when we advisedly state that an acting assistant-surgeon has joined the service within the last few weeks, and commenced his military career at the tender age of *sixty years*; and this gentleman is to spend his declining years in the comforts of home service, while the unlucky wretch who should occupy his place is banished, perhaps for the second or third time in his service, to imbibe malaria in the tropics.

THE
DUBLIN QUARTERLY JOURNAL
OF
MEDICAL SCIENCE.

NOVEMBER 1, 1864.

PART I.
ORIGINAL COMMUNICATIONS.

ART. IX.—*Contributions to the Volumetric Analysis of Urine.*
By A. W. WALLACE, M.D., Parsonstown.

I. *The method employed.*—The urine has been carefully collected for twenty-four hours, and its quantity measured, except when some accident has happened, and it has been necessary to estimate the entire quantity; these cases are noted as “estimated.” In observations on his own person the writer has collected from half-past seven each morning to the same hour the next morning. The mode of living has been as regular as possible, but not restricted:—Breakfast at eight—coffee, bread, and an egg; dinner at two—mixed; tea at seven—tea, bread, and an egg; not much walking, but generally from three to six hours spent each day on an open car; sleep, from seven to eight hours.

The analyses have been performed according to the directions given in the treatise of Neubauer and Vogel. French weights and measures have been exclusively employed, for one reason—because calculation is so much simplified; and for another—the

French system is used by most observers, and therefore observations recorded according to it are more readily compared with others. It is a matter of no moment to the reader what system is used by any observer, as the value of the observations is entirely relative. The student learns nothing by being informed that on a certain day a patient passed 50 grains of sulphuric acid in his urine, although he knows that 480 grains make an ounce. But he has learned something if he has been informed that a patient passed 3·5 grammes of sulphuric acid a-day during an attack of rheumatic fever, and only 2 grammes a-day after his health was re-established, although he does not know how many grammes go to an ounce. In every case it is the *relative*, not the *actual*, quantity of the urine and its constituents which is of importance. It has been found a great saving of time to measure off half the amount of urine to be analyzed, and to add the test, first in quantities of CC 2·5, till the point of saturation has been passed; then to add the other half of the measured quantity of urine, and let the test fluid flow in until it is within CC 5 of the point of saturation; after that to add it in single centimètres until exact saturation has been obtained—*e.g.*, CC 15 of the mixture of baryta solution and urine is the usual quantity operated on in determining the amount of urea. Take CC 7·5 first, and add the mercury solution in quantities of CC 2·5. Suppose that CC 12·5 is found to be too little, and CC 15 too much. Add the other CC 7·5 of the urine mixture, and at once let CC 25 of the mercury solution flow in. Five testings more, adding CC 1 each time, are the most that can be required. Following this plan, the amount of urea can be determined to within 0·5 gme., or, at most, 1 gme., the sulphates and phosphates to within 0·05 gme.; and, after some practice, the amounts of the urea, SO_3 and PO_5 , can be determined in about an hour.

The writer has tried a variety of arrangements in estimating the quantity of SO_3 and PO_5 . For the former he finds the quickest way to be to heat the urine in a flask to 212° , and to add the chloride of barium solution; then to filter a little into two small test-tubes of equal size, and to add a drop of the barium solution to the one, and of the sulphate of potash solution to the other—repeating the test, after fresh additions of the fluid in the burette, until equal cloudiness is produced in both portions of the filtered urine. The student will find it a most troublesome analysis for a long time; but after awhile he will have learnt, from the amount of cloudiness in the test-tube, how much more of the chloride of

barium solution he ought to add; and three or four testings will probably bring him to the point of saturation. Uranic oxide solution should always be employed in testing for PO_5 ; and the nitrate is preferable to the acetate, as there is less trouble in preparing it. The uranic oxide is dissolved in the smallest quantity of dilute nitric acid that will take it up, and the solution diluted to a proper strength, exactly as Neubauer directs to be done with the acetate. The carbonate of soda uranic oxide can be used for making the solution; this is an oxide precipitated by carbonate of soda, and retaining some of the precipitant; it effervesces with acids; about 30 gmes. of it are required to make a litre of test solution.

II. *The objects kept in view.*—Little advantage would be gained by observations made at random; the work of Dr. Parkes on the urine has, therefore, been taken as a basis, and those points have been fixed on for study in which information was found to be deficient. The observations in this paper were intended to bear on the following points:—

1. The daily variations in the constituents of the urine in health, during a considerable period.
2. The alterations in their quantity, arising from taking various medicinal substances into the system.
3. The alterations in their quantity, arising from the presence of disease.

This last, as it is the most important to practical medicine, so is it also the most difficult subject of research. It is in many cases impossible to ascertain the normal amount of excretion in the individual, and it is difficult to ascertain how far a change in the amount excreted is due to altered conditions of diet and exercise, and how much to the disease itself. Finally, the observations hitherto recorded are so meagre in detail—no notes being given of the patient's weight or diet, and, especially, the per centage amount of the urinary constituents being only given, and not their amount in twenty-four hours—that it is impossible to use them for comparison with cases more carefully recorded. The cases reported in this paper are not put forward with a view to support any theory, but are trustworthy records, so far as they go, of certain diseased states, and the amount of urinary constituents found in them. Any sound theory can only be formed by a generalization from a large

number of such records. Those only who have tried it know the difficulty that exists in preparing careful records of cases, especially in private practice. It is impossible to pick out more than a very few cases in the course of many months; it is, therefore an investigation in which many ought to be employed, that so a mass of reliable material may be collected for the use of those who have time and ability to arrange and generalize it.

III. *Results*.—In treating of these it will be necessary to unite the first and second of the objects kept in view in the observations into one section. The reason of this is, that the author was not aware that the action of the substances he was experimenting on continued so long perceptible after one or two doses of them had been taken into the system; and at first he took successive doses too close on each other for the urinary constituents to return to their normal condition. The first five and the last four observations in the table were made at times when the system was certainly free from the action of any drug. The following are the results:—

	Urea Grammes		SO ₃ Grammes
Highest—March 12, . . .	39·8	June 2, . . .	2·772
Lowest—June 3, . . .	32·5	March 11, . . .	2·367
Mean of the 9 observations,	35·75	. . . . .	2·613

The mean quantity of phosphoric acid for the first five days during which observations were made on it was 2·308, and for the remaining fourteen days, during which medicinal substances were taken, it was 2·415; or, omitting two observations which were exceptionally high, evidently from some other cause than the action of any drug, it was 2·351. This is not a sufficient variation to found any conclusion on, especially in the case of phosphoric acid, which is liable to vary much with the quantity and quality of the food which is taken.

The observations on the action of the bicarbonate and the chlorate of potash lead to interesting results:—

1. The urinary water was increased after the first dose, generally to a considerable amount; a second or third dose did not keep up the diuresis. On one occasion (6th April) the water was less than usual, but there was some purging.

2. The urea was, in almost all cases, increased on the first dose of the medicine being taken. The mean of March 16th, 24th, April 5th, 22nd, May 7th, is 39·6; or, omitting April 22nd, it is 40·6. It would appear, therefore, that the primary action of the potash is simply to wash the urea out of the system; and that if the previous excretion has been considerable, as on some days previous to the 22nd April, the increase is not so remarkable, though even on that day there was an increase of more than four grammes above the previous day. After the surplus urea has thus been excreted the quantity generally falls for a day or two, as is seen on April 8th, which is the lowest in the whole table, although 2·5 gmes. of chlorate were taken that morning. Other instances of the same thing can be seen. There seems, next, to have been a secondary increased formation of urea from increased metamorphosis, which rapidly brought up the excretion to the mean, or even above it. This is not well seen in the first part of the table, because the successive doses were taken too close on one another; but in the latter part, where the intervals are wider, the numbers are such as to afford a strong presumption of the correctness of the supposition. The circumstance that the amounts of urinary ingredients have a tendency to run in cycles of a week or ten days makes it always a matter of doubt in how far an increased quantity is a co-incidence with, or a consequence of, any given state.

3. Even after giving its full weight to the remark just made, the presumption seems very strong, indeed, that the sulphuric acid is decidedly increased by the potash, particularly by the chlorate. It will be observed that a day or two after the ingestion of the potash there is a very marked increase in the quantity of SO_3 , and this increased elimination continues for several days, being generally higher than the highest normal amount noted, and also higher than the highest mean amount recorded by Parkes. The observation on the 14th May is remarkable; it is the highest recorded—3·195 gmes. Was it due to the continued action of the potash? or was it due to an accidentally lessened excretion on the previous two days, being followed by an excessive excretion on the third? In Case I., where the chlorate was administered in considerable quantity, the effect on the SO_3 must be considered very doubtful. Still the evidence, such as it is, which is afforded by this case is in favour of the increase of the acid by the action of the potash.

On the whole, therefore, these observations tend to confirm the conclusions come to by Parkes relative to the effect of liquor

potassa and nitrate of potash on the tissues, and make it probable that the potash compounds generally have a similar action.

IV. *Effect of disease on the urinary constituents.*—It is natural to expect that if disease either retards or increases metamorphosis of tissue the result should appear in the altered quantity of urinary constituents. There are, however, a number of modifying circumstances which make it anything but easy to determine what the absolute effect of any disease is; for, in the first place, the mere presence of disease greatly alters the quantity of matters assimilated, and therefore, as a consequence, the quantity excreted; and, in the next place, there are no means of determining with certainty whether diminished excretion is due to diminished production of the ingredient, or to its being retained in the system, or got rid of some other way. In illustration of this, reference may be made to Cases I., II., and IV.; they are all characterized by a remarkable diminution of the constituents of the urine. In No. I. there seems little doubt that the increased severity of the head symptoms and the diminution of urea were somehow connected together; but which was the cause of the other? On review of the whole case, and taking into account the effects of treatment—observing that no measures intended directly to affect the increase of the urea produced any benefit, whereas a mild mercurial treatment appeared to benefit the head, and was followed by an increase of the urea—one is inclined to think that an altered state of the brain produced an altered state of metamorphosis. If this supposition be correct, it would account also for the diminution in the sulphates and phosphates. Case II. could be similarly explained. On the other hand, No. III. presents a case of very marked head affection, in which, taking into account the age, weight, and amount of nutriment, the urea SO_3 and PO_5 are above the normal amount. A mere per centage analysis would have made this a most telling case in favour of the theory that disease of the nervous system produced increase in the PO_5 , as it amounted to about three and a half per thousand; but even the excretion in twenty-four hours is larger than might have been expected, if diminished nervous action in all cases diminished metamorphosis. In Case IV. it was the excessive diminution in the urinary ingredients which led the author to consider the case of a very serious nature, at a time when the general symptoms were slight and obscure; and it is no doubt a good general rule to give a very guarded prognosis whenever

there is long-continued and marked diminution in the amount of secreted solids.

It has become the practice with some to give phosphates in cases of disease of nervous tissue, and the plan was followed at the commencement of the treatment of Case I. Farther reflection, however, led to giving up the practice. If the phosphates are wanting in the urine it is not because they are not supplied in sufficient quantity to the system, for there is always abundance of them in the food. Either they are not assimilated at all, and are passing off some other way—in which case there is no reason to suppose that phosphate of zinc or iron would be better assimilated than the phosphorus normally present in the food—or, possibly, they are being used up in the construction of some abnormal growth, as chloride of sodium seems to be in the hepatizing lung of pneumonia, and then an additional supply of them would be positively injurious if absorbed at all. It may, however, be well doubted whether it is possible to supply phosphorus or sulphur to the tissue of either nerve or muscle by putting phosphates into the alimentary canal. It is probable that the phosphorus contained in the phosphates which are in the blood is on its way *out of*, rather than *into*, the tissues, and that it is introduced into them as an elementary part of the albuminoid components which pass into the blood as chyle. If this be true, then the administration of phosphates, with a view to their being assimilated, is useless.

The author is inclined to consider the changes in the amount of the sulphuric acid as of great interest. It is more steady in its daily amount than the phosphoric acid, and is not so liable to sudden unaccountable variations. Its amount generally bears some relation to the quantity of urea, an increase in the latter being frequently accompanied or followed, sometimes at an interval of two or three days, by an increase of the SO_3 . The action of potash in increasing its amount makes it highly probable that its variations may be in many cases taken as a measure of the amount of metamorphosis, especially if corresponding variations take place in the amount of urea.

Finally, in the present state of our knowledge, it is easier to connect changes in the amount of urinary constituents with alterations in nutrition common to the whole system than with lesions of individual organs. In other words, the volumetric analysis of the urine will not help us to diagnose what particular organ is affected—that must be determined in other ways. But it may often very

much help us in determining how far disease has penetrated among the processes of secondary nutrition, and therefore how far it is likely to touch on the springs of life.

CASE I.—Mr. H., architect, aged thirty-two; weight about fifty-five kilogrammes. He had been complaining for some months of neuralgic pains in the head, for which he had been for some time under treatment. He was first seen by the author on 7th of last January. He complained then of sickness of stomach, white tongue from epithelium, sleepiness, shooting pains in the head. He was ordered 2 grs. of mercurial pill, and 2.5 grs. of dried soda every night. He continued to get worse till the 11th, stating that his head has a bursting feel. His mind wanders; he puts in one word in place of another, and is very drowsy. His mouth became slightly affected after the third pill.

13th.—To have three grains phosphate of zinc thrice a day, and four grains of James' powder every night, and a blister to the nape; a vapour bath every night. Diet to consist largely of milk, and some meat.

16th.—Feels much better. Wandering of mind gone, puts in his words right. He has no acute pain in the head, but a heavy pain across the vertex and back of the head.

21st.—Feels better and stronger; no wandering; tongue almost free from its coating of effete epithelium. Complained for a day or two of pain in the loins, for which he was rubbed with croton oil. The pain is now gone. He has little shooting pain in the head, but has dull pain across the forehead. Sleeps less in the day and better at night. The appetite is better. The urine has an indescribable sickening smell, is pale and opalescent. Albumen, a trace. The vapour baths, zinc, and James' powder, are continued.

February 2nd.—Continues better; urine pale, greenish, and generates vibriones when it has stood for some time. Discontinued medicine.

10th.—Appetite not so good for some days. Occasional forgetfulness. Drowsy, and sleeps a good deal in the day; bowels regular; pulse 96. Infusion of gentian.

13th.—Much as when last reported; urine slightly albuminous. A weak solution of sulphate of copper produces a precipitate. When this is re-dissolved by liq. potass, and boiled, the urine becomes brown, but not violet. Twenty drops of dilute nitric acid thrice a day.

March 5th.—Since last report tried tincture of the muriate of iron, with quassia, but it made his appetite worse; so he got carbonate of iron instead. He could sleep to any amount; appetite worse on some days than others: occasional weight in the head; appetite bad; puffiness under the eyelids; bowels regular; pulse 96.

23rd.—Decidedly worse; memory bad, and occasional wandering; great drowsiness. Other symptoms as before. He has been taking Griffith's iron mixture, and is to continue it, and take 5 grains of iodide of potassium with each dose.

26th.—Much worse; mind wanders; and he sleeps all day long; tongue covered thickly with white epithelium; pulse 96. Discontinue iron; continue iodide, and take 2 grs. blue pill and 2·5 grs. colocynth pill every night.

27th.—Wandering less. Urine becomes pink on the addition of nitric acid.

29th.—Much wandering yesterday and to-day; twitching of the hands; slept all the morning; 30 grains chlorate of potash twice a-day. Continue blue pill and colocynth.

30th.—Twitching gone.

He now went to Dublin, and remained about a week, taking no medicine. He returned, better, on the 11th April. On the 15th he began taking 30 grains of chlorate of potash every morning, and on the 23rd as much more in the afternoon.

3rd May.—Has been gradually getting worse since last report. Vision is double, and tongue loaded with epithelium. As no result had followed from the chlorate, and he was evidently getting into the same state as that reported on April 26, *et seq.*; it was changed to the iodide of potass. He was put on mercurial pill and dried soda as at the beginning of his treatment; and a constant blister was opened on his neck.

9th.—He is already better. Double vision gone; less confusion and drowsiness; appetite better; tongue comparatively clean.

From this time he continued to improve, the head symptoms being much less, except that he had some numbness and pricking in the right hand, and some unsteadiness in his gait. He was sent to the sea side on the 17th May, and is reported to be progressing favourably. He was continuing the iodide, and afterwards the bromide, of potassium, and the two-grain doses of mercurial pill, no effect being produced on the gums.

Analysis of Urine in Case I.^a

Date	Urine C.C.	Urea Grms.	SO ₃ Grms.	PO ₅ Grms.†	NaCl Grms.	
Jan. 13,	1,050	24.15	1.281	1.470	2.100?	Taking mercurial pill and soda.
„ 15,	980	20.58	0.980	0.980	4.900?	Taking phosphate of zinc and James' powder. Getting worse.
„ 19 & 20,	2,485	37.27	—	1.668	12.42	Getting better, and continuing medicine.
„ 31, & } Feb. 1, }	2,275	35.81	—	2.275	7.892	Continuing better.
„ 12,	2,275	34.12	1.706	1.896	9.100	Rather worse. Infusion of gentian.
„ 19,	1,680	27.72	1.596	2.016	6.720	Do. Nitric acid.
March 6,	2,000	34.00	1.500	2.000	—	Much as before.
„ —	2,100	31.50	1.260	—	—	Decidedly worse. Iron; iodide potass.
„ 27,	1,460	23.36	1.168	1.533	7.300	Worse, and tongue coating. Mercurial pill. Iodide.
„ 29,	—	—	—	—	—	Urea, &c., estimated same amount as 27th. Twitching. Chlorate of potash.
„ 30,	990	15.84	0.841	1.039	—	Rather better, and twitching gone.
„ 31,	1,350	21.60	1.135	1.485	6.75	Ibid.
April 13,	2,100	31.50	1.890	1.995	—	Much better.
„ 14,	2,000	30.00	1.900	1.500	—	Ibid.
„ 19,	1,630	24.45	1.500	1.467	—	Chlorate of potash since 15th; thirty grains a day.
„ 24,	2,070	31.05	1.811	1.552	—	Do. 60 grains a day. A change for the worse on the 23rd.
„ 29,	1,435	22.96	1.509	1.435	—	Getting worse.
May 6,	1,400	22.40	1.400	—	—	At the worst, and beginning mercurial pill.
„ 16,	1,870	29.92	1.916	1.855	—	Much improved.
Aug. 26,	1,550	24.80	1.860	1.627	—	Has returned from the sea, very much better.

^a The urine was more or less albuminous every time it was examined. On one occasion, when it seemed considerable, it was collected and weighed; the amount passed in twenty four hours was 1.18 grammes. The presence of albumen is apt to interfere with the determination on the NaCl.

CASE II.—T. B.; age forty-five; weight, fifty-one kilogrammes; labouring man. He has been ill seven weeks, during which time he has suffered from severe pain in the right side of the head. He has had vomiting of food for the last three weeks. At present, 16th April, he complains of numbness of the right side of the face. He is deaf in the right ear; squints inwards with the right eye, and sees double; bowels constipated; appetite bad, and food rejected as soon as swallowed; tongue furred; pulse 93.

21st.—Put a seton in the nape. To have milk diet exclusively, and five grains iodide of potash thrice a day.

25th.—He is much better. Tongue cleaning; pain less; milk retained by the stomach; bowels regular without medicine.

May 28th.—He went to his home a day or two after the last report, and gained flesh. He is now stronger, but the numbness in the face continues. The double vision and the deafness, and the pains in the head, have returned lately. Appetite pretty good, and no vomiting; bowels regular; seton discharging; pulse 84. The urine is milky-looking, and the colouring matter very deficient. The milkiness is due to small granules, but whether they were introduced from without or not is unknown. To have iodide of potassium, blue pill, and dried soda.

17th June.—Is free from pain in the head, but the squint, double vision, &c., continue. His appetite is better.

Analysis in Case II.

Date	Urine C.C.	Urea Gmes.	SO ₃ Gmes.	PO ₅ Gmes.	
April 17,	885	14·16	0·903	1·150	High coloured; slightly albuminous.
„ 19,	600	9·60	0·780	0·660	Do. do.
„ 20,	800	12·00	—	0·760	Do. do.
„ 26,	850	10·62	—	—	Do. do.
„ 28,	1,270	12·06	0·952	0·307	Do. do.
May 28,	1,820	29·10	1·638	1·092	Very pale; rather more albuminous.

CASE III.—Mrs. G., aged seventy-one; weight, 55–60 kils. She was first seen on the 9th May. She had been complaining, for about a month, of shortness of breath on going up stairs, and had slight swelling of the feet. The pulse was 31, regular, and moderately full. Next morning the chest was carefully examined.

The heart's impulse was imperceptible, the sounds almost inaudible, no murmur; pulse, 29. Shortly after the examination she got an attack of screaming and panting, for which she had ammonia and brandy, and a sinapism over the heart; the attack went off in about twenty minutes. The tongue was loaded with white epithelium, and she complained of fulness of the stomach; bowels confined. She remained quiet all that day and night. On the 11th she suddenly again got an attack of screaming; she appeared to be insensible; the body was twisted convulsively backwards, and with each jerk a cry was uttered as in opisthotonos; the breathing was rapid, pulse more frequent, and the heart throbbed strongly; she could not swallow; turpentine was applied to the epigastrium. This state continued for nearly an hour. Cold water was then poured on the head, upon which the fit at once ceased and consciousness returned. She then got a turpentine enema; 10 grains of calomel were placed on her tongue; and she got 2·5 grains of James' powder and 2 grains of calomel thrice a-day. She remained free from any attack during the succeeding days, the pulse varying from 30 to 40, sometimes irregular; the bowels were relieved twice or thrice a-day; the dejections copious, semi-solid, light grey. She slept a good deal, but was restless; did not care for nutriment, but took about a pint of milk in the twenty-four hours. The tongue remained coated with epithelium. The calomel and James' powder were continued till the mouth was slightly affected; bicarbonate of potash was then given; a blister was opened on the vertex.

On the 20th she seemed going on well; but suddenly, without any cry or warning, she became insensible, with stertorous breathing; the pupils at first contracted, afterwards dilated, and hardly affected by light. She remained in this state about seven hours, when she became again conscious, but gradually sank, the pulse failing at the wrist, the extremities becoming cold, and consciousness remaining nearly to the last. She died early on the morning of the 21st. The urine was high-coloured and acid; it contained uroxanthin, and was slightly albuminous.

	Urine	Urea	PO ₅	SO ₃	NaCl
16th, . . .	CC 530	21·70	1·855	1·643	0·53
19th, . . .	485	16·97	1·214	1·115	—

CASE IV.—H., sergeant-major,^a aged thirty-seven, tall and spare;

^a The author is indebted to the courtesy of Dr. Jameson for an opportunity of reporting this case, and for a copy of the report of the autopsy.

weighed 77 kils. before his illness, but is now considerably emaciated (May 1st). He states that, for about a year, he has been suffering more or less from pain in the back; about three months ago, when going down stairs, he got a sudden attack of severe pain in the groin; it was relieved after some time, but he is now again suffering from it. It shoots down into the testicle; there is no hernia; pulse is frequent; there is loss of appetite; no sleep at night, but cold perspirations; the urine is high-coloured, and deposits a red sediment.

	Urine	Urea	SO ₃	PO ₅
1st, . . .	CC 450	10·8	·765	·662
13th, . . .	750	9·0	·375	·362—Albumen, a trace.

18th.—Is no better; the pain in the groin is worse; an obscure fulness can be perceived in the left iliac fossa; and there is dulness on percussion in the left lumbar region when he lies on his face, while percussion on the other side is clear.

28th.—He has been suffering from severe pain in the left groin and hip, shooting down into the testicle. There is great pain and tenderness in the left lumbar region, especially over the kidney; percussion is dull in the same part. When he lies on his back a slight fulness is visible in the iliac region and adjoining portion of the thigh; there is a feeling of resistance on pressing it, but percussion is clear. He does not sweat at night; appetite very bad; bowels regular; pulse 100.

Urine	Urea	SO ₃	PO ₅
CC 700	14·0	·560	·700—Albumen, a trace.

He was not again examined by the author, but Dr. Jameson reports that distinct pulsation became observable in the left lumbar region, but that no bruit was audible. When rising to wash himself, on the forenoon of June 14th, he suddenly expired.

Autopsy, twenty-six hours after death.—External appearance, spare but muscular. On opening into the abdomen both the solid and hollow viscera were found healthy. On raising the left kidney an aneurismal tumour, communicating with the aorta, and about the size of the closed fist, was observed immediately behind, and intimately connected to it and to the diaphragm. In the latter was a large opening, communicating with the adjacent pleura, which contained about a pint and a-half of dark blood, partly coagulated; there was also three-quarters of a pint in the cellular tissue behind the kidney. The left sides of the last dorsal and first lumbar

vertebrae, together with the intervening cartilage, were affected with caries. The substance of the kidneys seemed healthy. The heart was small, with much fat deposited on its surface; cavities normal, as also the semilunar valves of the aorta. Both lungs healthy.

*Quantity of Urine and Urinary Constituents passed each day by the
Writer of the Paper.*

Date	Urine c.c.	Urea Gmes.	SO ₃ Gmes.	PO ₅ Gmes.	NaCl Gmes.	Observations
March 11	910	35.0	2.367	2.284	10.01	
" 12	1200	37.8	2.550	2.220	12.00	
" 13	1190	39.8	2.499	2.339	11.90	
" 14	1045	35.5	2.610	2.247	10.97	
" 15	1255	38.3	2.535	2.447	13.18	
" 16	1310	39.0	2.751	2.096	12.44	Took gmes. 3 of bicarbonate of potash.
" 17	1130	40.1	2.966	2.429	10.73	The same.
" 18	1080	40.5	2.700	2.214	11.34	The same.
" 19	1000	37.0	2.500	2.400	12.00	
" 20	990	36.7	2.673	2.574	9.90	
" 21-2	1000	38.5	2.775	2.700	10.00	
" 23	1090	39.8	2.943	2.834	13.62	Walked 3 miles, felt fatigued; drank more water than usual.
" 24	1560	43.7	2.808	2.418	12.86	Took gmes. 2.5 chlorate of potash.
" 25	1180	36.6	2.832	2.360	10.62	Taste of chlorate remained till 11, a.m.
" 26	1210	43.2	Mean 3.087	Mean 2.470	{ 11.49 11.12	
" 27	1390	41.5				
" 28	1060	36.0	2.650	2.279	10.07	
" 31	1070	Mean 39.6	—	Mean 2.467	Mean 12.62	
April 1	1225					
" 2	1100	35.2	Mean 2.575	2.420	—	Had pyrosis; took blue pill, 2 grs.; dried soda, 2.5 grs.; co. coloe., 2 grs.
" 3	975	34.6				
" 4	900	35.1	Mean 2.646	—	—	The same. Bowels acted twice, as from medicine.
" 5	1000	39.0				
" 6	890	35.6	Mean 2.581	—	—	2 gmes. chlor. of potash, taken in two portions, morn. & aftn. The same. Some purging.
" 7	890	34.7				
" 8	830	30.7	2.365	—	—	2.5 gmes. chlorate in one morning dose.
" 9	880	34.3	Mean 3.128	—	—	
" 10	835	33.4				
" 11	965	38.6	2.991	—	—	7, a.m., 2.5 gmes. chlor. potash diluted.
" 12	835	34.2	2.505	—	—	7½, a.m., 2 gmes. chlorate of potash diluted.
" 13	910	34.6	2.411	—	—	Do., 2.5 gmes. do.

Quantity of Urine and Urinary Constituents passed each day by the
Writer of the Paper—continued.

Date	Urine c.c.	Urea Gmes.	SO ₃ Gmes.	PO ₅ Gmes.	NaCl Gmes.	Observations
April 14	1020	36.7	3.034	—	—	
" 15	960	34.6	2.700	2.400	—	
" 16	940	36.7	3.055	—	—	
" 17	910	36.8	2.866	—	—	
" 18	1085	37.9	2.821	—	—	
" 19	1075	37.6	2.902	—	—	
" 20	950	34.2	2.517	—	—	
" 21	1015	31.5	2.385	—	—	
" 22	1190	35.7	2.737	—	—	2.5 gmes. of chlorate in the morning; same in afternoon.
" 23	875	31.5	2.966	—	—	
" 24	900	36.0	2.925	—	—	
" 25	970	39.8	2.958	—	—	
" 27	1080	37.8	3.132	—	—	
" 28	970	33.9	2.716	—	—	
" 29	1130	33.9	2.712	—	—	
" 30	1100	34.1	2.970	—	—	
May 1	1210	38.7	2.662	—	—	
" 2	1230	34.4	2.583	—	—	
" 3	1095	36.1	2.970	—	—	
" 4	970	36.9	2.813	—	—	
" 5	940	32.9	2.679	—	—	
" 6	1050	34.6	2.782	—	—	
" 7	1450	40.6	3.045	—	—	5 gmes. bicarbonate of potash in the morning.
" 8	1345	35.0	2.892	—	—	
" 9	1110	32.2	2.777	—	—	
" 10	1165	38.4	2.696	—	—	
" 11	1050	37.8	2.992	—	—	
" 12	845	33.0	2.408	—	—	
" 13	825	35.5	2.392	—	—	
" 14	900	34.2	3.195	—	—	
" 15	850	33.2	2.805	—	—	
" 16	1050	36.7	2.992	—	—	
June 2	1120	34.0	2.744	—	—	
" 3	880	32.5	2.772	—	—	
" 4	880	32.6	2.728	—	—	
" 5	930	36.3	2.700	—	—	

ART. X.—*On an Unusual Form of Dislocation of the Hip-joint.*

By GLASCOTT R. SYMES, one of the Surgeons of Steevens' Hospital, Dublin.

FROM the absence of any record of such, it is to be presumed that a case similar to that now about to be noticed has not occurred in the practice of any hospital surgeon in Ireland; hence, I feel it to be my duty to put on record the following. Although, for reasons hereafter to be mentioned, the treatment proved unsuccessful, yet the pathologist and surgeon will hail with pleasure any account which will increase the number of recorded cases of hitherto rare lesions; as thus our knowledge of the facts regulating their diagnosis and treatment will be enlarged to the advantage of the public.

W. L., aged thirty-six, was admitted into Steevens' Hospital 6th May, 1864; he was brought in in a state of extreme intoxication; he had been driving a "float," on the fore-part of which he was sitting. He fell off, and was dragged for some distance between the bottom of the vehicle and the ground. He could not at any time give a history of the accident; the meagre account obtained was collected from bystanders. On examination, the left leg was found to be fractured close to the ankle; the condition of the right limb, the subject of this memoir, was as follows:—It was considerably shortened, to the extent of two inches; the foot was everted to an extreme degree; the buttock was flattened; the projection of the trochanter was not so marked as at the sound side; it could be felt in a situation above and behind its usual position; there was a remarkable prominence of the soft parts on the anterior and inner aspect of the thigh; although there was no protuberance to mark its presence, the head of the femur could be felt revolving beneath the hand when the limb was moved; it was situated about two and one-half inches below the anterior superior spinous process—it was not immediately beneath, but lay on a plane very slightly posterior to it. The following measurements were taken:—

From ant. sup. spine of ilium to patella on right side,	. 16 $\frac{1}{4}$ inches.
" " " " left "	. 18 $\frac{1}{4}$ "
From ant. sup. spine of ilium to int. malleolus on right side,	33 $\frac{1}{2}$ "
" " " " left "	35 $\frac{1}{2}$ "
From interclavicular notch to patella on right side, .	33 "
" " " " left side, .	34 $\frac{1}{2}$ "
" " int. malleolus on right side, .	50 $\frac{1}{4}$ "
" " " " left side, .	52 "

From symphysis pubis to sacrum round right side, .	. 19 inches.
" " left side, .	. 18 "
From ant. sup. spine of ilium to (head of femur?) .	. 2 $\frac{1}{4}$ "

Taking into account the shortening, the eversion, and the flattening of the trochanter, every person who saw the case, before actual examination, pronounced that the femur was fractured. On the other hand, there was no crepitus, the head of the femur moved freely in unison with the limb, and the relative position of the trochanter and head of the bone was not disturbed in any way. Hence, the conclusion arrived at after examination was, that it was a case of dislocation of the hip-joint.

On proceeding to reduce the dislocation, the method by manipulation was first had recourse to; in the execution of the required manœuvres, a most extraordinary symptom or phase of the case manifested itself. When the thigh was flexed on the abdomen a distinct "*glug*" was heard, as though the operation of reduction had been successfully completed; but on straightening and drawing down the limb all the symptoms of the ordinary dislocation of the head of the femur on the dorsum of the ilium were found present, viz., shortening, inversion, and the head of the thigh-bone could be distinctly felt in its new position on the dorsum. To effect this change of station it had revolved through the arc of a circle corresponding to the rim of the acetabulum. When the limb was allowed to remain at rest in this new position, the weight of the foot soon rotated the leg outwards, and again we had the original dislocation reproduced. On repeating our efforts the same occurrence took place again and again.

Having failed in the reduction by manipulation, recourse was had to the pulleys, but without any effect further than that already observed—of converting it into a case of dislocation on the dorsum. When the hand was placed on the groin, in the situation occupied by the head of the bone in the primary dislocation, the limb being left to itself gradually rolled outwards, and the head could be distinctly felt rotating forward beneath the hand, until it resumed its original abnormal situation.

On three different occasions the patient was subjected, on the operating table, to our repeated and long-continued efforts at reduction. On each occasion I had the advantage not only of the advice and opinion of my own experienced colleagues, but I was also assisted by the judgment and suggestions of eminent surgeons

connected with other hospitals in this city. Notwithstanding, our efforts were not crowned with success.

The failure must be attributed to either of three causes—viz., mismanagement, fracture of the acetabulum, or laceration of the capsular ligament. With regard to the first, every person who witnessed our operations must have acknowledged that the case received fair play in every way, nor were our efforts relaxed until prudential motives obliged us to desist. I had the advantage of good advice, and did not rely on my own judgment. The limb was pulled in every conceivable direction and manner, and the arrangements for the reduction of dislocation in Steevens' Hospital are, probably, the most perfect in this country. Yet, aided by all the resources of a metropolitan hospital, the reduction was not effected.

There were none of the symptoms of fracture of the acetabulum; there was no crepitus; nor could the limb at any time be drawn down to the level of the sound one. If fracture of the rim of the acetabulum had taken place the dislocation could have been reduced, but it would have recurred again—not so in this instance, as the limb was never drawn down to its proper position.

I am more disposed to account for our failure as follows. The patient at the time of the accident was subjected to great crushing violence, such as would drive the head of the femur either through the acetabulum or the capsular ligament. If it were driven through the latter by an opening just sufficient to permit its passage, or if the ligament was detached from the bone, allowing the head of the bone just room enough to escape from the joint, the edges of the rent would tightly grasp the neck of the bone where it is constricted below the head. Such a state of things would account for our failure, and every symptom of the case; it would account for the anomalous position of the head, above the acetabulum, below the anterior superior spine of the ilium; as in whatever direction it passed out, such it would retain after the laceration; under other circumstances, it would probably have immediately resolved itself into either the ordinary dislocation on the dorsum, or the unusual form on the brim of the pelvis. The occurrence of the secondary dislocation taking place during our efforts at reduction recall to mind Mr. Wharton's case, where, in endeavouring to reduce a dislocation on the dorsum, dislocation took place into the sciatic notch; this occurred more than once in his case. The readiness with which the primary dislocation was reproduced in the case under notice can be fully accounted for on the supposition that the neck of the bone

was grasped by the rent in the capsular ligament so as to prevent the secondary dislocation from being a complete one, by allowing of rotation only to a limited extent over the rim of acetabulum. Owing to the manner in which the neck of the bone would be grasped by the edges of an opening in the ligament and other soft parts about the joint, the limb could not be drawn down to the level of the sound one. I submit that the more extension would be put in force in such a case so much the more tightly would the head of the femur be held by the opening in the ligament.

Several cases are on record of dislocation similar to that now described: so many, that Malgaigne and Hamilton both give this form a place in their description of dislocations of the hip-joint. The former calls it supra-cotyloid, the latter classes it among the anomalous dislocations. It has also been called the dislocation beneath the anterior superior spine of the ilium. I would venture to name it, "the dislocation of the head of the femur on the dorsum of the ilium, *with eversion of the foot.*" Such in reality was the case. Cummins, Morgan, and others, describe similar accidents.

Taking into consideration the secondary dislocation, the case is unique in the form of the consecutive variety. Lente has recorded a case of this very lesion, where, during efforts at reduction, it resolved itself into a dislocation into the sciatic notch. I have alluded to Mr. Wharton's case. Malgaigne has described another.

It will be remembered by the practical surgeon, that eversion can only occur in three forms of dislocation of the hip—in dislocation on the pubis always, in dislocation on the body of the ischium almost always, and in the dislocation upwards now described always. In the first case the limb is either of its natural length or slightly elongated; in the second case it is decidedly elongated; but in the form under consideration there is considerable shortening to the extent of two inches or more—so that this is the only dislocation in which eversion occurs where the limb is shortened. Finally, the symptoms of this dislocation are:—Real shortening; slight abduction; extreme eversion; projection of muscles on the anterior and internal aspect of the thigh; loss of the prominence of the trochanter; flattening of the buttock; and the situation of the head of the bone can be ascertained beneath the anterior superior spine of ilium.

ART. XI—*Notes in Medicine and Surgery*—II. By PHILIP CRAMPTON SMYLY, M.D., F.R.C.S.I.; Surgeon to the Meath Hospital, and to the Institution for Sick Children, Pitt-street.

THE methods recommended for the treatment of diseases of the larynx and trachea have become so numerous, within the last few years, that it is not easy to compare their several advantages. One laryngoscopist advises solutions of various irritants, introduced by means of a brush or syringe especially constructed for the purpose; another blows very fine powders into the cavity; another galvanizes the muscular structures; another pulverizes fluids for inhalation.

All these devices have been called for by the obvious advantages of applying local applications to a diseased surface. Before the laryngoscope brought the lining membrane of the larynx and trachea into view, and revealed many diseases before only guessed at, the practitioner was content with a brush, or sponge on a stick, to apply remedies to the pharynx, or to touch, with nitrate of silver, any ulcerated spot he might see. Now that he can see, in many cases, down to the bifurcation of the bronchial tubes—in almost every case the whole larynx, and a great part of the trachea—he must mount his brush on a long curved stem, he must have his peculiar syringe, his laryngeal galvanizer, his polypus forceps, his éraseur, and his fluid pulverizer.

The object of these notes is to point out some of the advantages peculiar to the last of these—the inhalation of pulverized fluids.

Inhalation is not, by any means, a new idea; vapours have been employed from the earliest times, and air impregnated with various substances suspended in it, has been a remedy of well-known value—*e. g.*, the sea breezes in scrofulous disease. But inhalation of solutions of various medicinal substances, broken into a fine spray, is new. Sales Girons published his first clinical observations in 1857; the diseases in which the inhalations were found beneficial were pharyngitis, laryngitis, bronchitis, tuberculosis, &c. Since then many, both in France and Germany, have followed him, more especially within the last two or three years, and many instruments have been invented to break the fluid into spray. It would be out of place to enter on this extensive subject here, or on the discussion whether the spray, when formed, enters the air passages at all or not, and if it does how far it can penetrate into the bronchial tubes. It is, for the present, sufficient to state, that the fluid impregnated

with substances not otherwise volatile, can be broken into such fine spray that the solution may be inhaled without inconvenience, and that the medicinal agent may thus be brought in direct contact with the lining membrane of the bronchial tubes, even as far as their small ramifications.

The instrument I use is made by Mr. Krohne, after M. Lewin's. It consists of a glass chamber, covered with an air-tight brass cap. In this cap a glass tube is fixed, almost touching the bottom of the glass vessel. The end, outside the brass cap, is drawn out to a capillary opening, and bent at an angle. Into another part of the cap an air-pump is screwed, to press air into the chamber, thus forcing any fluid introduced into the chamber through the capillary opening with very great force. A glass cylinder, open at both ends, and having a small round hole in the side, is fixed by means of a metal rod at a short distance, so that the stream from the capillary opening may enter the hole in the side. Opposite this hole a metal button is fixed, on which the stream strikes, and is broken into a fine spray which falls out of the cylinder at each end. The patient is then placed opposite one end of the glass cylinder, and by breathing draws a considerable portion of the spray into his air passages.

I have employed the pulverized fluid thus formed in several cases, and with very good results, in which I had before been employing other remedies without effect; these I will pass over, and merely give one case in which every other remedy either failed or could not be employed.

Mr. R. consulted me, about the end of June, 1864, complaining of a constant irritation of the throat, preventing sleep, and causing great distress. His throat was so sensitive that the examination with the laryngoscope was very difficult—almost impossible. However, after a time, I got a very good view of the entire larynx. The epiglottis was very red, the mucous membrane between the arytenoids and the false cords was congested and slightly excoriated. The vocal cords were quite white, except towards the sides attached to the larynx. I tried to touch the parts with a brush charged with a solution of nitrate of silver, but could not get it past the base of the tongue. I ordered, then, a strong gargle of bromide of ammonium, and to come again in a day or so. A few days after he returned, saying the gargle had done him some good. The examination was not quite so difficult, and I succeeded in passing a brush between the arytenoids. There was

very little spasm, but he was attacked with violent vomiting, which continued for three hours; after this he would not allow a brush to be again introduced. He tried several gargles, but without any effect, and inhaled the vapour of hot water, &c. He got worse and worse, so that for many nights he had no refreshing sleep. I then told him I had just obtained Lewin's fluid pulverizer, and that I wished to try its effect in his case. The first day he inhaled the spray of a (15 grains to the oz.) solution of nitrate of silver for about ten minutes; after the inhalation he said he felt the whole throat rather sore. Next day he came for a second application; the soreness, after the first, had quite gone off towards evening, and he had slept, without any disturbance from his throat, the whole night. The inhalation was repeated twice. His throat was so much improved that he was able, a few days after, to leave Dublin to travel for pleasure.

October 13th.—Mr. R. has not had any return whatever after the second application of the spray of nitrate of silver solution.

ART. XII.—*Remarks on the Hebrew Catalogue of Skin Diseases.*

By T. W. BELCHER, M.A., M.D., Dub.; Fellow of the College of Physicians; Physician to the Dispensary for Skin Diseases, &c.

I BEG to refer the readers of this Journal to the number for May, 1864. In that number appeared an essay of mine, entitled "The Hebrew, Medieval, and Modern Leprosies Compared," which concluded in the following words:—"They (the minor skin affections) were classed with leprosy by Moses, and, altogether, probably form a better classification of cutaneous diseases than any of the systems now extant."

I wish in the present essay to note particularly the Mosaic nosology above referred to; and before doing so I would set before the reader, in as concise a manner as I can, a *resumé* of such parts of the first essay as relate to the subject now under consideration.

It will be observed that I controverted the position of the learned Erasmus Wilson—that Hebrew leprosy and Greek elephantiasis were identical; and I endeavoured to do this by proving that black and white were not the same, and that hypertrophy and atrophy were absolutely different.

That elephantiasis may have existed among the Jews side by

side with leprosy, as it still does in Tangiers, I did not deny; nor did I deny a possible pathological connexion between the two diseases. I thought the learned Mead had just grounds for considering elephantiasis to have been the disease of Job, and I still think so. (See his "*Medica Sacra*," quoted in my former essay.)

When I wrote the first essay I had not seen the fifth *illustrated* edition of Mr. Erasmus Wilson's great work; and I mention this fifth edition now, because it adds much to my argument, and strengthens my previous convictions. Both in the Preface and in the Appendix a lengthened strain is played to the tune elephantiasis, as if all said in the body of the work were not sufficient, and as if it were the key-note of his system. In that Preface assertion occupies the place of argument; and as some will still call lepra, leprosy, he wants to get rid of the term altogether, or to apply it to elephantiasis. Thus he remarks "the term LEPROA—*der Aussatz* in German—signifies THE eruption, the great eruption. It is synonymous with LEPROSY, THE leprosy, the ancient leprosy, that which has since been called elephantiasis. Therefore let us bestow the term lepra where it rightfully belongs, or reject it altogether. The trivial affection which we at present call lepra has no single point of comparison with leprosy."

Now, though *der Aussatz* may be rendered "the eruption;" yet in any German and French dictionary we shall find *lèpre* as the French equivalent term. This brings us further; for very near to our English term leprosy is the French *léproserie*, which is in German *das Spital für Aussätzige*, in plain English, the leper hospital. Through the French and English the German word is thus undoubtedly connected with the Latin lepra; so here we are brought back to the point yet to be explained by Mr. Erasmus Wilson, the *proof* that *der Aussatz* (or *lèpre*) and elephantiasis are synonymous. That "the trivial affection which we at present call lepra has no single point of comparison with leprosy," is quite true in his sense of the word leprosy (*i.e.* elephantiasis); but that the squamous disease, which is trivial with us but serious in the East, has points of comparison with Hebrew leprosy I have, I trust, abundantly shown. At page 360 of Mr. Wilson's work we are told, with reference to elephantiasis—"the term *mal rojo*, used in Spain, calls the attention to the dark red, or reddish brown, hue of the diseased skin; while in other countries it has been named *mal noir*, also from the dusky hue of the skin, and to distinguish it from the common white leprosy, *lepra*." After this it may well be asked,

how can *mal rojo* or *mal noir* be identified with the "bright white berat" of Moses, with the white scaly (λεπίς) λεπρά of the LXX, or with the disease of Gehazi, who "went out from Elisha's presence a leper as (white as) snow?"

The appendix, already noted, contains some of Mr. Wilson's views of the cutaneous nosology of Celsus. After stating the value of his testimony, he mentions the account of elephantiasis in the third book (Cap. 3), giving Celsus due credit for accuracy of description, but observing that he does not mention the word *lepra*. Truly he does not; for he had not fallen into the modern method of confounding *lepra* and elephantiasis as one disease. Repeated allusion has been made to the pathognomic sign of Hebrew leprosy—the white scaly eruption. Mr. Erasmus Wilson thinks elephantiasis was the Hebrew leprosy, and that Celsus most accurately described that elephantiasis. He does not, however, give the most striking part of that description, which is here subjoined:—"Summa pars corporis crebras maculas crebrosque tumores habet; rubor earum paulatim in atrum colorem convertitur."

I ought, perhaps, to remark on the vitiligo of Celsus, since Mr. Erasmus Wilson thinks it identical with *lupus non exedens*. Because the latter disease gives the affected surface a veal-skin appearance, he observes:—"This white and glistening appearance, bearing some resemblance to the skin of calves (*vituli*), seems to have given rise to the generic term." When we come to read what Celsus really says about vitiligo, we find, as stated in my former essay, his three divisions of it—*alphos*, *melas*, and *leuce*. Now, elsewhere, Mr. Erasmus Wilson speaks of *alphos* of Celsus as the squamous *lepra*—the boak of Moses; and *leuce* he terms *morphœa alba*, a form of elephantiasis; while he also speaks of vitiligo (the common name of *alphos*, *melas*, and *leuce*) as *lupus non exedens*. I need scarcely say that this confusion will not fit the descriptions of Celsus any more than it did those of Moses, who was quietly shelved as an inaccurate describer; and, if I may again refer to my former paper, few things have been more clearly laid down than the soundness of the opinions of Rhenferdus, Mead, Good, and others, who identified the three varieties of vitiligo of Celsus with boak, berat eecha, and berat lebena of Moses. Although we are referred by Mr. Wilson to some fifty skin diseases, described by Celsus in his third, fifth, sixth, and seventh books, yet the reader will be surprised to learn that no part of his cutaneous nosology is contained in the third book. Placed between descriptions of "morbus

arquatum" and ἀποπληξία we find mention of ἐλεφαντίασις ; but it is plain to any reader that Celsus had no idea of its being a skin disease at all, much less that it was the leuce of the Greeks or leprosy of the Hebrews, which he describes as a species of vitiligo in Book V. It is not until the reader has passed over all the fourth, and the mass of materia medica disquisitions in the greater part of the fifth book, that he comes to the cutaneous nosology, which the learned Mr. Erasmus Wilson has certainly studied with zeal and ability.

Before proceeding to the consideration of the Levitical nosology referred to in the opening portion of this paper, it may be well to define clearly what is here meant by the term "classification."

Any one who feels an interest in the subject is aware that our existing classifications of skin diseases are so numerous, and so unsatisfactory, that each writer in general endeavours to establish a peculiar nosology, which is as carefully set aside by the next author. We even find that an author may set aside his own arrangement in favour, not of one improved on the previous model, but of one of a wholly different kind. This Mr. Erasmus Wilson has done—and how rare is such an exhibition of literary candour!—while the Preface and Appendix to his fifth edition show that his later classification is not generally received as satisfactory.

Can it be possible, then, that so old-fashioned a writer as Moses really gave a list which comes closer to nature than any novelty of our own day? I propose to consider this question; and I here use the term *list* as synonymous with classification, because the latter term, in its rigidly strict sense, is inapplicable to the present subject.

A list of skin diseases, according to my humble view, should be as simple as possible, and should set forth the varieties so arranged as to be readily distinguished one from the other, and treated most successfully.

The simplest plan would seem to be that which describes the disease in the way in which it appears to the ordinary acute observer, discarding any system based on pathology or any other part of medical science, for the valid reasons that such science is incomplete and its conclusions are largely controverted. But it is attempted to make a classification a complete list; to include under sub-classes all varieties, ordinary and extraordinary, and it is here that so many fail, because many diseases, or natural facts, will not fit themselves to classifications, or laws of nature, constructed by partially-informed men.

Reading the thirteenth chapter of the book of *Leviticus* in this light, we find in it an enumeration of various kinds of skin disease, with directions for diagnosis. These directions are intended to apply to morbid appearances presenting themselves to an ordinary acute observer, who, in his official capacity, is called on to distinguish one disease from another, to separate the patient from society, or to restore him to it.

It did not profess to be an arrangement including every possible variety under its proper class, according to scientific opinion as to its nature; it was eminently practical, designed for a practical purpose, and for practical men.

I shall now give the nosological table referred to, adapting to it most varieties of skin disease. These I shall give mostly according to the nomenclature of Willan, as it is sufficiently comprehensive, is well known, and approaches more nearly to the Levitical arrangement than any I know:—

1

Including vesiculæ, bullæ, and papulæ. { שֹׂאֵת (shaat), herpes or tetter, rendered “a rising”—*Lev.* xiii., 2; translated by the LXX. ὀυλή, a scar or mark. Varieties—Herpes, eczema, pemphigus, rupia, lichen, prurigo.

2

Including pustulæ. { סִפְתָּה (saphat), or dry scall; “a scab”—*Lev.* xiii., 2; σημασία (LXX.), a sign. Varieties—Psoriasis (dry scall), pityriasis, and ichthyiasis.

3

Including pustulæ. { נֶתֶק (netek), or humid scall; incorrectly rendered “dry scall”—*Lev.* xiii., 30; θράῦσμα (LXX.), a plague, or breech, or crust. Varieties—Porrigo, sycosis, impetigo, ecthyma, scabies.

4

Including squamæ. { כְּהַרֵּת (berat), “bright spot”—*Lev.* xiii., 2. Varieties—כְּהַרֵּת לֶבֶנָה (berat lebena), λεύκη (Celsus), and כְּהַרֵּת צֵהָה (berat cecha); μέλας (Celsus).

5

Including squamæ. { כְּהֵק (boak), “a freckled spot”—*Lev.* xiii., 39; also described, in the same verse, as “darkish white;” ἀλφός (Celsus).

6

Including maculæ. { נֶגַע (nega), "plague"—*Lev.* xiii., 29; (a blow, or bruise, or morbid appearance—ἀφῆ, LXX.). Varieties—Ictus, lentigo, ephelis.

7

Including tuberculæ. { שֶׁחִין (shechin), "a boil"—*Lev.* xiii., 18; ἕλκος, LXX.; (h)ulcus, Vulgate—an ulcer. Varieties—Acne, elephantiasis, molluscum, frambesia.

8

Including tuberculæ. { מִבְּזָהּ-אֵשׁ (mecutash), "a hot burning," lit. a fiery inflammation—*Lev.* xiii., 24; κατὰκαῦσμα πυρὸς, intense burning of fire—LXX.; "caro autem et cutis quâ ignis exusserit"—Vulg. Varieties—Plague, anthrax, purpura, lupus.

I omit the exanthemata from this list, because they are really *febrile* diseases; and, although Dr. Neligan has omitted from his order "exanthemata" the several species of continued fever, variola, varicella, rubeola, and scarlatina, along with erythema, urticaria, and roseola, he has included in it erysipelas, which is a vastly more febrile disease than varicella at any rate. That there is a disease of the skin in all these affections there can be no doubt; but the *febrile* symptoms of most of them are those which would first attract the notice of the ordinary observer. Under the Mosaic law the exanthemata evidently were not considered skin diseases; the persons affected with them could not be "brought to the priest," as were all who were presumed to be afflicted with cutaneous disease. Yet, as it may be truly alleged that the minor exanthemata (erythema, urticaria, and roseola) *are* skin diseases, they can be easily included under one or more of the heads above given.

It may be well to give a few remarks explanatory of the Levitical nomenclature.

שֹׂאֵת (shaat), translated "a rising," seems to have been understood as indicating the presence of any minute utricle or bladder of the cuticle. Willan has made but slight differences in his definitions, save as to size; and the term may be presumed to have been co-extensive at least with what the Greek physicians called "phlyctænæ."

סִפְחָת (saphat), translated "a scab," is, according to Dr. Mason

Good, the dry "sahafati" of the Arabian writers, the Arabic being derived from the Hebrew root. The Greeks translated the term into psoriasis, indicating thereby a dry scall or scale—a word of Saxon origin, from "sceala," a rough surface.

נתק (netek). The Saxon word sceala, or scall, included two kinds, dry and moist. It is to the latter I now refer.

Like our ancestors, the Arabians had a common name (sahafati) for both; distinguishing one from the other by the term dry and humid. In the authorised version of the book of *Leviticus* the Hebrew netek is by mistake rendered "dry scall." On this Dr. Mason Good observes:—"The expletive *dry* does not occur in the original, and that נתק (netek) denotes humid scall rather than dry scall, is clear from the explanation contained in the Bible context, in which it is represented as a scall, seated on the hair or beard, and affecting its strength and colour, forming so thick a crust or scab that its removal by shaving cannot be accomplished, or ought not to be attempted. It is distinctly therefore a porrigo or scabby scall, and is thus verbally rendered in the Latin version of Tremellius and Junius," (*Study of Medicine*, Vol. V., p. 632. Fifth Edition.) Moreover, θραῦσμα, into which the LXX. render netek, literally means *a crust*, a term in use among us at present to express the peculiarities of a porriginous scab.

Numbers 4 and 5 have been treated at length in my previous essay, so the next to be remarked on is—נגא (nega), translated "plague," and rendered by the LXX. into ἀφῆ, a blow or bruise (ictus).

This was probably the meaning of Moses; and, although such an appearance might ultimately turn out to be harmless, yet examination was required for prudential reasons. We so often see cancer, for instance, popularly traced to a blow or bruise, that even while refusing to believe the disease to have so originated, we are compelled to admit some connexion between the two facts. This will to some extent explain how a blow or bruise might to the ordinary observer seem directly connected with the origin of malignant disease.

שחין (shechin), translated "a boil," rendered ἑλκος by the LXX., and (h)ulcus in the Vulgate, would seem to mean, in this part of the Levitical canon, a tumour resulting in ulceration. The same word is found in *Exodus* ix., 9, "shechin perech," "a boil breaking forth with blains," literally "burning carbuncle;" and again in *Deuteronomy* xxviii., 27, "shechin misraim," "the blotch

of Egypt," literally "the carbuncle of Egypt." These last, however, plainly refer to what we shall find classed under מכות-שא (Mecutash) "a hot burning," literally a fiery inflammation" (*Lev.* xiii., 24).

This is rendered by the LXX. into κατάκαῦσμα πυρὸς, intense burning of fire; and the passage in which it occurs is thus significantly rendered by the Vulgate:—"Caro autem et cutis quâ ignis exusserit."

There can be no doubt as to the truthfulness of the above definition of anthrax in the form in which we now meet with it. The late learned Professor Osborne, of this city, in one of the most able papers ever written on the subject (*Dub. Quart. Journ.*, May 1858), demonstrated the plague at Athens, as described by Thucydides, to have been what we call sea scurvy; and Lucretius described this same plague by the name of "sacer ignis," (*De Rer. Nat.* vi., 1164). Eusebius, the ecclesiastical historian, gave the same name to the plague which raged in Syria, A.D. 302, and as we have seen, the translator of the Vulgate when engaged in rendering the Hebrew "mecutash," had the idea of fire prominently before his mind.

Doubtless each author of a classification will see a crop of objections to the above list. But it may be asked, under what class should we include the very common disease scabies? How many classifiers will agree here? Supposing all should agree, how will that disease, complicated with eczema, be classed? What diseases shall eczema itself be held to include? The fact is, that most varieties are classed in an arbitrary manner. A typical well defined case is selected as an example, and a drawing is made of it in the developed state of the disease. But the numerous cases which puzzle practitioners and classifiers are seldom described in plates as they occur at the outset, because they cannot be accurately named according to existing tables; while practical men find one given line of treatment applicable not only to several orders of one class, but to several classes themselves. That the eight names above given are not to be taken as "classes" is obvious; because by joining two or more in one the list may be further simplified, and hence, in a pathological, or in an anatomical sense, it is not the best classification. Homer's *Navy List* is accepted as a clear account of the Grecian ships, and of most important particulars concerning them. Even so, Moses gave the Hebrews a catalogue of cutaneous diseases, which we have seen is remarkably true to

nature, and is not open to the objections which may be urged against the best of our modern "classifications." It had the great advantage that as it was not based on science, truly or falsely so called, so it need not vary with the ever shifting sands of imperfect medical knowledge. It served to detect disease, to diagnose it, to treat it when curable; and to permanently separate the diseased from the healthy, when incurability was demonstrated.

In conclusion, I may refer the reader to the articles **LEPROSY** and **MEDICINE** in Smith's *Dictionary of the Bible* (1863); and among the numerous works therein noted I may name Shapter's *Medica Sacra* (1834), and Bartholini (Thom.) *De Morbis Biblicis Miscellanea*. This last curious treatise is to be found in Ugolini's *Thesaurus Antiquitatum Sacrarum* (Vol. XXX., p. 1,521), published in folio, at Venice, in 1765, and is classed Fag. W., 1-30, in the library T.C.D.

ART. XIII.—*A Simple Object-Finder for Students' Microscopes.*

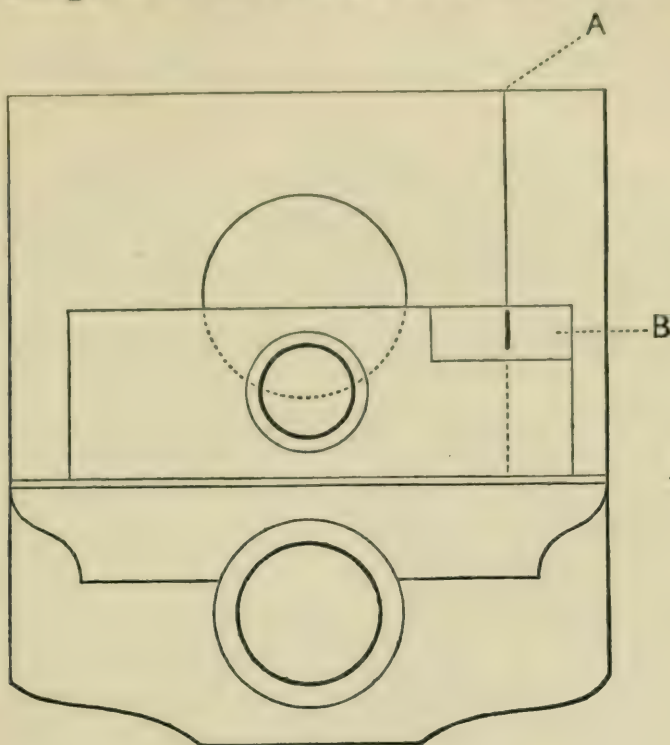
By THOMAS POWELL, L.R.C.S.I., Enniscean, County Cork; late Assistant-Surgeon H.M. Bombay Army; formerly Lecturer on Practical Anatomy in the Original (now Ledwich) School of Medicine, &c., &c.

DURING the last year I have been using a simple addition to the stage of my microscope, which acts as a most efficient object-finder, I find it most accurate with all powers up to the $\frac{1}{8}$ -inch object-glass.

This diagram shows the arrangement, and represents the stage of a student's microscope as made by Smith and Beck. In order to use this finder with a microscope, it is necessary for the object-carrier to be well fitted, and move easily and accurately in the vertical direction. The object-carriers of all good students' microscopes are, I believe, sufficiently well fitted, and I find that of Messrs. Smith and Beck answers perfectly.

The finding line (A) is a fine black engraved line marked on the stage of the microscope, near its right margin, vertical to the object carrier, and parallel to its plane of movement at about one inch and two-tenths from the centre. A small piece of paper, or of gummed label (B) three-fourths of an inch long, and one-fourth of an inch wide, attached to the upper surface of the slide, where it overlaps

the finding-line, completes this simple apparatus. It is used thus:—
An object being in the field to which it is desirable to recur. The



Mr. Powell's Object-Finder.

observer moves his head to the right, so as to get a view of the finding-line and label; he then with a pen makes a line on the label in apparent continuation of the finding-line. In order to find that object at any future time it is only necessary to place the slide on the stage, and adjust the microscope so that the object would not pass through the field unobserved, then push the object-carrier fully down, placing the slide so that the line on the label is again in apparent continuation with the finding-line, when by moving the object-carrier upward the object will be seen to enter the field.

In marking the line on the label it is necessary to observe whether the pen is "sighted" with one or both eyes, and to use either habitually, otherwise an inaccuracy in replacing the slide will result, which, being magnified by the power of the microscope, will prove material.

It has occurred to me that the finding-line might be marked on the object-carrier, or on a small plate attached to it. I have tried it so placed, but whether from habit or not, I find the line on the stage the most convenient. If, however, the object-carrier was imperfectly fitted I think it would be better to place the line upon it.

ART. XIV.—*Notes of a Visit to the Medical Institutions of New York.* By HENRY KING, A.B. M.B., Ch. L., Ex-Scholar, Senr. and Junr. Moderator T.C.D.; Staff Assistant Surgeon H. M. Madras Army.

HAVING recently had an opportunity of acquiring trustworthy information upon the medical institutions of the great city of New York, I hope an account of them may prove interesting to the profession at this side of the Atlantic. In these days, when many changes and some improvements are being made, or contemplated, in our system of medical education, the practice and experience of foreign countries may be valuable guides to us. The results of the studies and observation of our foreign brethren are always deserving of attention; but there are special reasons which make the customs and institutions of the United States more interesting to us than those of other foreign countries. It is no less true in medical matters than in politics that in America we see in action many practices to which we can discover here a tendency. We may therefore learn in what direction our efforts should be exerted, either to reform what appears to us to need improvement, or to obviate the tendency to undesirable results.

I purpose to describe briefly the system and state of medical education in New York; and, having premised some account of the sanitary condition of the city, to give details of the hospital and dispensary provision for the diseased and injured. In addition, I shall touch briefly upon the state of our profession in New York, and of its parasites, (as the "irregular practitioners" may be called), concluding with a few words upon the Sanitary Commission, without which a paper upon medical matters in the United States would be, in the present day, incomplete.

The present year is said to be the first in which the medical schools of New York have equalled, in the number of their students, the rival schools of Philadelphia.^a In both cities the systems of medical education are the same; but in consequence of the concentration of the students in two institutions instead of their dispersion through four or five, the remuneration of the professors in Philadelphia is higher than in New York. They are thus enabled, in a

^a The number of matriculated medical students in Philadelphia this year is 781—380 in the University of Pennsylvania, and 401 in Jefferson College.

great degree, to devote their undivided time and attention to their professional duties, undistracted by the details and anxieties of practice. No doubt this state of things is very satisfactory to the professors themselves in the "City of Brotherly Love," but whether it has the effect of rendering their lectures more instructive to their classes I have had no opportunity of judging. I should be inclined to prefer the combination of special study with the experience derived from general or special practice, to the former alone—more particularly in some of the subjects of medical education. The more active competition, (if healthy), among several schools than between two only may not be without advantage also.

The sole medical qualification is the degree of M.D., there being no educational distinction between physician and surgeon. There is not, as with us, a central examining and qualifying body, for whose approval each school prepares its candidates. In New York the Legislature has conferred upon each educating medical corporation the power of granting the degree of Doctor of Medicine. This privilege has been not long since conceded by the Legislature to the New York Homeopathic Medical College, and might, no doubt, be obtained by any other "pathists" who should think it worth their while to expend some energy and dollars in obtaining the legal right to dub themselves "doctors." The assumption of the title, indeed, without any legal right is attended by no legal penalty. The preference previously given to the "regular practitioners" by the law was abolished about the year 1840, when the statute regulating the practice of medicine was repealed, and *any person* was allowed to collect fees for medical services. It follows that not only the popular title of "Doctor," but even the legally-obtained M.D. is totally destitute of significance.^a Any one, almost, may obtain it; and any one may assume without having obtained it. The conditions on which the genuine degree may be obtained are the same in all the schools of New York, (which shall be noticed individually hereafter), and may be stated in a few words. A candidate for the degree of M.D. must produce satisfactory evidence of having "studied medicine" under a respectable practitioner for three years; of having matriculated; and of having paid for two courses of lectures from each of the professors of whom the Medical Faculty consists (besides two sessions of Demonstrations and Dissections), whose

^a In 1861 there were thirty-seven medical schools in the United States, each conferring the degree of M.D.

"tickets" he must exhibit. He must further hand in a thesis upon some professional subject approved by the faculty, composed, of course, by himself, and (generally) also written by himself. These preliminary steps taken, the candidate is examined separately and privately by each member of the faculty in his own special branch of medical science, for twenty minutes or half an hour. He is also liable to examination upon his thesis; and in some cases to a further test. The ordeal successfully undergone, the degree is conferred publicly, with no little ceremony, and in the presence of an admiring crowd of both sexes, assembled to hear the music and the speeches, which form an essential part of a Commencement.

The difficulty of the final examination is of course relative to the powers of the candidate; and it is therefore impossible for a stranger to estimate the value of the ordeal as a test of professional knowledge and skill. The examination being private, an inquirer is dependent for the means of forming an opinion upon his observation and knowledge of the men who have passed it, and on their own estimate of its nature. The latter, as might be expected, fluctuated between remote limits, some of my informants believing that it might be made very much more stringent with advantage; others, that it was more than sufficiently difficult already. Judging from the character of the New York graduates, so far as I have been able to observe it, I think there is good reason to conclude that, while the leading physicians and surgeons of New York are unsurpassed by those of any European city, and the great majority of second-class practitioners in the large cities and towns are fully equal to the corresponding class in these countries, the lower ranks of "country practitioners" are inferior in professional acquirements to our own, and might beneficially be excluded from regular practice, or compelled to qualify themselves more fully for it by a more rigid examination.^a

However, whether the examination for degree be searching or the reverse, it is the only test to which the candidate is subjected—the only means possessed by the faculty of judging whether the

^a Great complaints are made by the compilers of vital statistics of the difficulty of ascertaining the true cause of death, in consequence of the ignorance of scientific nomenclature on the part of the signers of death-certificates. This is no doubt partly due to the fact that druggists, &c., as well as regularly, but imperfectly, educated physicians, are legally competent to sign these certificates. We have heard a gentleman state, that in a town in Connecticut, with a population of 13,000, he has known one disease to appear in death-certificates under *six* different names—this being the result of ignorance on the part of the medical attendant, regular or irregular.

student has availed himself of the opportunities within his reach. Attendance upon lectures or hospital instruction is absolutely voluntary. A professor, his ticket once issued, lectures regularly in the appointed place, but never troubles himself to ascertain whether the members of the class attend or not. No roll is called; no questions asked. If a student takes out a ticket for a course additional to the two prescribed, which he can do without the payment of any additional fee, he receives a special honorary certificate, to which some importance and value appear to be attached. Beyond this, no encouragement to regular attendance upon the means of instruction is given by the schools. But an able lecturer—and the great majority of the professors in the New York schools are very able men—always commands an audience, not from his own class only, but from all the students of the city, with a sprinkling of practitioners besides. All lectures are open to the profession, and the privilege of attendance upon the best is freely used by crowds of attentive students. Although, therefore, no effort is made even to bring the medical horse to water, he does not fail to come of himself and drink, if the supply be copious and good. Nowhere have I seen larger, more attentive, or better conducted audiences than in the medical schools of New York.

Each student, at matriculation, names a “preceptor”—generally, but not necessarily, a professor of the school into which he is entering. This gentleman in most cases, we understand, receives a yearly fee, in return for which he either himself instructs the pupil, or provides for his professional instruction. Apprenticeship is unknown.

No evidence of regular attendance upon an hospital is required, beyond the certificate of having “studied medicine” for three years, which need not be signed by the physician or surgeon of an hospital. But this apparent laxity does not, in practice (any more than the liberty of neglecting lectures at will), operate unfavourably. The hospitals are well and regularly attended, and the teaching is careful and eminently practical. Cases are diagnosed by the students, under the superintendence of the visiting physician or surgeon, who elicits by examination the opinion of the former upon the nature of the case, as well as the grounds of his opinion; and also the treatment he would recommend, and the reasons for it. Three or four cases will be thus examined into on each visiting day, and three or four students specially, and the whole class generally, instructed practically in diagnosis and therapeutics. The

method is a good one, but tedious, and possesses no superiority over the system pursued in the hospitals in this city, where students receive charge of patients on admission, and during their continuance in hospital; taking notes of the cases, diagnosing and treating them, under the superintendence of the physician or surgeon.

In the schools not immediately connected with hospitals a system of clinical instruction has been introduced; first by Dr. Metcalfe, Professor of the Practice of Medicine in the University of New York, a gentleman of the highest eminence in his profession, and most deservedly popular amongst the students and all others who have the pleasure of his acquaintance, some in this city included. On certain days in each week, during the session, patients attend at these schools for advice. Three or four, the most suitable for practical instruction in diagnosis, are selected, and examined in detail, in presence of the class, by the professor. The students are thus taught how to elicit from a patient the information necessary for diagnosis and treatment. These clinics, as they are called, are very instructive, and seem to be proportionably popular, being attended regularly by large classes of students, as well as, in some cases, by practising physicians—attendance being of course voluntary. The supply of ordinary medical cases, willing to submit to examination into their ailments before a large class, in consideration of receiving advice and a prescription, seems to be abundant. The clinique of Diseases of Women is, naturally, maintained with greater difficulty, but still is maintained with great success, at the College of Physicians and Surgeons at least, under Dr. Thomas.

The teaching in the New York medical schools appears to me to be *practical* in a very high degree. The system of instruction is adapted to making good practical physicians and surgeons, and the lectures are evidently directed to the same end.^a No stronger proof of this can be given than the existence of a strong reaction in favour of more theoretical teaching. I have heard gentlemen, whose opinion is of considerable weight, express misgivings with reference to the intense practicalism of the instruction given. These would exclude students from hospitals, and other more practical parts of professional education, during the earlier years of their course; restricting them to anatomy—in the theatre and dissecting room—physiology, and similar preparatory subjects. They would render the entire course of the student more theoretical than at

^a For example, I heard a lecture on Version, which was illustrated by the performance of the operation upon a dead subject, *per vias naturales*, with a real fetus.

present, leaving him to acquire practical skill and knowledge, chiefly *after* his final examination. This would be, to a considerable extent, feasible in New York, where a great number of hospitals and other medical institutions afford temporary employment and practical instruction to young graduates as resident physicians or surgeons, before entering upon the regular and permanent duties of their profession. But it is evident that this resource is limited in applicability, and would not justify the entire omission during the student's course of instruction directed to enabling him to practise with confidence immediately after graduation. I mention these opinions, not as approving them, but in order to illustrate the state of medical education in New York, and the feelings with which it is regarded in that city itself.

The fees are the same in all the schools, viz., five dollars (£1) at matriculation; fifteen dollars (£3) for each of the seven "tickets," amounting to £21 for each of two years; five dollars (£1) for each of two Practical Anatomy tickets, with one dollar for each "extremity" (or each subject—we forget which). The graduation fee is thirty dollars (£6). Thus the total expense of a medical education, as far as the school is concerned, does not exceed 260 dollars, or £52,^a hospital instruction being altogether gratuitous. To these must be added the cost of a "quiz," (I am not sure of my orthography, never having seen this word, of unknown derivation, in print)—Hibernicé a "grinder," which amounts generally to thirty-five or fifty dollars a year. This private medical tuition is, as amongst ourselves, general, though not indispensable or universal. The classes range from twelve to fifty in number, meeting in some large room of an hospital or dispensary, with which the teacher (or one of the teachers, partnerships in this business being common) is connected. This connexion with a public institution, which is very general, enables the teacher to give his pupils the benefit of clinical instruction.

The supply of subjects for dissection is abundant—and the study of practical anatomy may be carried on without fear of a repetition of the celebrated "Doctor's Riot" of 1787. On that occasion some boys peeping through the window of the hospital,

^a A pound sterling may be roughly calculated as equivalent to five dollars—supposing the United States currency to be in its normal state. A sum in dollars may, therefore, be shortly converted into pounds, with sufficient accuracy for ordinary purposes, by cutting off the last and doubling the remaining figures. This process is, in most cases, *easier than dividing by five*.

saw, with horror, the process of dissection, and ran to tell their parents. A serious riot ensued. The doctors fled for their lives, and took refuge in the prison, where their friends and the police succeeded in protecting them for a few days, until the popular excitement had subsided, and they were able to walk the streets once more in safety. It is said that the house of the English Consul, *Sir John Temple*, narrowly escaped being sacked, the mob supposing him to be a *Surgeon Temple*.

There are two weak points in the New York system, which I shall notice briefly before describing the schools individually. One is, the shortness of the period devoted to the teaching and the learning of a science and an art yearly increasing in complexity and difficulty. We have seen that the regulations require only three years study, preparatory to graduation. This is, unquestionably, altogether inadequate to the task which it is expected and supposed to fulfil. The most brilliant and industrious student will with difficulty, if at all, master, in three years' study, the multiplicity of details with which the well instructed physician's or surgeon's mind must be stored, besides acquiring the essential education of the eye, the ear, the touch, the *nose*. To the student of merely ordinary ability and application it will be impossible. In New York, however, the case is still worse than this, so far as the conditions of graduation are concerned; and too often, it is to be feared, in actual practice. The curriculum occupies but two of the three years required, and a year may be passed in the country before coming up to attend lectures, in study merely nominal or conventional.

Again, while a healthy competition among the colleges of a university, or among a number of medical schools preparing students for one central licensing body, may be, or may be made exceedingly beneficial to education, the competition of several corporations, each possessing a chartered right to confer diplomas or degrees, can scarcely fail to be unhealthy—to degenerate into a greedy scramble for fees, and to result in a lowering of the standard of graduation in some, and perhaps ultimately in all. That there is a tendency, at least, to this great evil in New York, there is reason to believe. We need not cross the Atlantic to seek for examples of the mischief which may arise from the morbid form of competition I have indicated. But, it appears that even more danger to the cause of medical education exists where, as in New York, five licensing bodies compete for students in

one city, than where, as with us, the rival corporations do not, generally speaking, come into immediate contact and competition.

There are in the State of New York six^a chartered medical colleges, empowered to confer the degree of M.D. Of these, one is in Buffalo, in the north-western part of the State; four in the city of New York, and one in the neighbouring city of Brooklyn. A few words may be said about each of the last five.

The oldest of these is the *College of Physicians and Surgeons*, which, since 1860, is the medical department of Columbia College. The latter was chartered in 1754 as "King's College," being the fifth in the United States in order of time. Seven years previously (1747) the state of learning in the province was felt to be deplorably low, not more than thirteen of the inhabitants at that date having received a classical education. To remedy this it was determined to raise £2,250 by lottery for the purpose of founding a college. The building was completed in 1760—not, of course, where it now stands, but in the oldest part of the city, where the name "College-place" marks the site. The medical school which now forms a department of it, was not opened until 1807.^b The first graduation took place in 1811.

The Faculty of Medicine consists of the president (who is also "Emeritus" Professor of Obstetrics); two other Emeriti professors; seven regular professors (one of whom teaches Medical Jurisprudence in addition to Obstetrics); the Professor of Military Surgery, a recent significant addition to the regular professorial staff; Professors "Adjunct" of Surgery and Obstetrics; a Demonstrator of Anatomy and his Assistant; Assistant Professors of Obstetrics, Physiology, and Surgery; and a Librarian.

The regular course of lectures opens in the middle of October, and continues till the second week in March. During the four weeks previous there is a "Fall Course" of lectures delivered by the professors on special subjects—such as (in the present year), abortion, meteorology as applied to hygiene, physical exploration of the eye, &c. There is a similar Spring Course, beginning in April. Of the "Cliniques" I have spoken before. There are five held at the college, and one elsewhere. Advanced students receive charge of obstetric "out-patients."

Two examinations of candidates for graduation are held annually—one in March, before the Spring Commencements; the other on the

^a One of these has since become extinct.

^b The first medical school in the United States was opened at Philadelphia, in 1764.

second Tuesday in September, for the Fall Commencements. The latter of the two required courses must have been taken out at this college; but graduates of other recognized schools, who have been three years in practice, and theological students, are admitted to examination on a "general ticket," on payment of the matriculation fee only.

With the intention of connecting this school with the New York Hospital more especially three prizes have been established, of 150, 75, and 25 dollars, awarded to the authors of the three best written reports of the clinical instruction of that institution during four months of the year preceding graduation. There are also prizes of 50 and 25 dollars for the two best graduating theses; and one of 100 dollars for the best series of preparations illustrating the anatomy and physiology of the larynx.

Of the 288 students during the Session 1863-64, 81 belonged to New York city; 69 to other parts of the State; 22 to the British provinces (including 1 from India); 14 to Massachusetts; 3 to Pennsylvania; and 1 was an M.D. of the University of Madrid. 63 were Bachelors, and 21 Masters, of Arts. 17 were already Doctors of Medicine.

Of the 62 graduates of 1863, 17 were from New York city; 19 from other parts of the State; 4 from the British Provinces; and 2 from Massachusetts. 15 were A.B.'s; 3 A.M.'s; and 2 M.D.'s.

The museum is quite unworthy of the oldest medical college in a great city. It is principally made up of private collections of the professors, used in illustration of their lectures. The preparations made by Dr. Dalton, the Professor of Physiology, are very beautiful and valuable, but the others are not worth a visit.

The Medical Department of the *University of (the City of) New York* was founded in 1837, but did not commence operations until 1840. The Faculty includes, or till lately included, the well-known names of Mott, Metcalfe, Bedford, Draper, Van Buren, &c., most eminent in the United States, and known in Europe. This school enjoyed an extensive Southern connexion; and before the breaking out of the present war, its pupils and graduates were more numerous than those of the other colleges in New York. In the year 1861, 129 medical degrees were conferred, while the number given the same year in the College of Physicians and Surgeons was 69. 64 were granted to students from the Southern states.

The Museum of the University School is a very good one, but has a neglected appearance. Bottles but half filled with spirit,

cases with cracked and broken glass, shelves disfigured with dust and cobwebs, betoken the absence of proper care. Professor Mott's collection is the largest of the component sections, including a vast number of preparations of tumours, benign and malignant, and a small but valuable ethnological case of crania. Next to his in extent and value is the private collection of Dr. Finnell, which does not, however, form a permanent part of the University Museum. The other professors' contributions assist to produce a result very far superior to the collection of the other College. There is a library of 5,000 volumes.

Commencement Day is in the first week of March. The conferring of medical degrees is a grand affair in New York, and deserves, perhaps, a brief description. The Medical Commencement of the University is held in the evening, in the chapel^a of the university buildings, in Washington-square; the school itself is in a different part of the city. The Chancellor of the University enters, accompanied by the Medical Faculty (all arrayed in academic cap and gown), and begins the proceedings by reading a few verses from the Gospels—without uncovering his head—and offering up a short extempore prayer. He then reads out the names of the gentlemen who have been recommended by the faculty for the degree of M.D. These are called up, in classes of ten or twelve, to the platform, and receive the degree from the Chancellor, who pronounces a few Latin words, and delivers to each candidate a roll of paper tied with a ribbon. An attendant relieves each batch of graduates, as they descend from the platform, of these rolls, which do duty for the next set—a symbolical proceeding worthy of the “old country!” and illustrative of the fact that “sham” is inseparable from degrees in every land. Certificates of honour (for attendance upon extra courses of lectures) are next announced. Then prizes are handed to the successful candidates—the Mott Medals and Metcalfe and Van Buren Prizes. A Valedictory Address to the graduates is then delivered, the Chancellor pronounces a blessing, and the Commencement is over. Between the parts of the ceremony a band performs operatic or other music. This description, with little variation, would answer for the Commencements of the other Colleges of New York. Fifty-nine degrees were conferred by this school in 1864.

^a “Churches” in New York are available (for a consideration) for business much more secular than Commencements. The Roman Catholic and Protestant Episcopal communities are exceptional in restricting their places of worship to their proper object

The New York Medical College has become defunct. It held its last Commencement on the 7th of March. It never enjoyed much favour with the profession, partly in consequence of the not unnatural jealousy with which a new school is regarded by the *alumni* of older ones; partly, I believe, on account of the personal unpopularity of one of its promoters; and partly because of its supposed proclivity to flirtation with homeopathy and kindred "arts." It was said that homeopathic practitioners, actual or intentional, experienced no difficulty in graduating at this college; but this may have been a slander.

The school was chartered in 1850, and the first Commencement held in March, 1851. Dr. Horace Green, the advocate of the application of caustic solutions to the bronchi, and even lower depths—a gentleman who honoured Dublin with a visit some years ago—and Dr. Carnochan, said by some to be the most skilful operator in New York, were the founders of the new college. After a few years it came near collapsing—Dr. Green having withdrawn from active connexion with it—and was taken in hand and galvanized into renewed vitality by some of the younger members of the profession, ambitious, and anxious to distinguish themselves. However, last March it died, regretted by few. In its agonies it conferred degrees on fourteen gentlemen, of whom seven were from New York, four from Cuba, two from Germany, and one from Massachusetts.

A small "Charity Hospital," containing thirty beds, was attached to this college.

The youngest and most flourishing of New York medical schools is the *Bellevue Hospital Medical College*, which was chartered in March, and began its work of education in October, 1861. The Act of Incorporation was granted on the application of the Medical Board of the Hospital, together with the recommendation of the Commissioners of Public Charities and Correction. The plan was stated to be the combination of "clinical and didactic teaching, by engrafting a medical college upon a large hospital," "after the examples of the most distinguished European schools." The school is situated in the grounds of Bellevue Hospital, in which ten or twelve thousand patients are treated annually—the average number in the house being between 800 and 1,000^a—besides 1,000 cases, mostly chronic, in Blackwell's Island, between which and Bellevue

^a Five hundred births take place annually in the hospital.

communication is easy, regular, and free to students, and which is under the care of the same medical staff. Thus the students are able, without inconvenience or loss of time, to devote three hours daily to hospital instruction.

The Medical Faculty consists of a President, a Secretary, and thirteen Professors (all of whom but three are connected with hospitals as visiting physicians, or surgeons, or obstetricians), besides the Demonstrator of Anatomy and his Assistant; the "Prosector" to the chair of Surgical Anatomy; and an assistant to the Professor of Chemistry and Toxicology. A chair of Orthopedic^a Surgery is filled by Dr. Sayre; and Dr. Hamilton, well known in this country through his work on *Fractures and Dislocations*, is professor of those subjects in combination with Military Surgery. The regular term begins in October and ends in March, being preceded by a preliminary term of four weeks.

The number of students attending this school has increased, is increasing; and, we may add, in the opinion of some of the friends of its older rivals, ought to be diminished. In 1862-63, the total was 182; in 1863-64, 307. In 1863, 41 degrees were conferred; 97 in 1864; and the Commencement of this year, held in the huge opera-house, called the Academy of Music, was so attractive to the beauty and fashion of New York that I failed to effect an entrance, and retired in disgust to the homeopathic Commencement which was proceeding simultaneously in a Unitarian church in Broadway.

Of the 307 students of the present year 107 belong to the State of New York, 34 to the British American provinces, 24 to Pennsylvania, 5 to Cuba, and 1 to Persia. Of the 41 graduates of 1863, 15 were from New York, 6 from the British provinces, and 1 from Pennsylvania. Three were already doctors of medicine—two from Wisconsin and one from Arkansas; only one gentleman (from Massachusetts) was an A.M. In the absence of degrees in arts this school contrasts unfavourably with the others. For this deficiency cushioned seats, showing the march of intellect in the theatre, make poor amends.

Though not falling regularly within the scope of this paper, the *Long Island Medical College* deserves a passing notice. The city of Brooklyn is separated from the island on which New York is built by the "East River," which connects the Sound between

^a Cannot some high medical authority rid us of this dreadful word, which is a disgrace to the nomenclature of a "learned" profession?

Long Island and the mainland with the Hudson, or North River. It is, in population, the third city in the Union, the inhabitants numbering, in 1860, 266,664. Here the Long Island College Hospital claims to have inaugurated, in the United States, the connexion between a medical school and an hospital, the former being within the hospital buildings, in which nearly 10,000 patients are treated annually.^a

There are seven professors in this school besides Dr. Hamilton (who divides his allegiance between it and Bellevue), Professor of Military Surgery, Hygiene, Fractures, and Dislocations; who has, however, been absent during the last two sessions, holding a high staff appointment in the United States army. One peculiarity of this college is, that a council of physicians, who do not take part in the medical instruction of the students, have charge of the examination for degrees. Another is, that the regular term begins in March and ends in July, thus affording the means of medical education during the Spring and Summer months. The fee for graduation is only twenty-five dollars.

Fifty students matriculated in 1863; 18 from New York, 7 from Massachusetts, 6 from Pennsylvania, 1 from the British provinces, and 1 from Scotland. Sixteen graduated; 3 from New York, 4 from Pennsylvania, 2 from Massachusetts, and 1 from Scotland.

Before describing the hospitals of New York—as well those which assist in medical education as the others—a brief sketch may be given of the city from a sanitary point of view.^b

The island of Manhattan,^c on which New York is built, is $13\frac{1}{2}$ miles in length, and its average breadth is one mile and three-fifths. It contains 14,000 statute acres. While London may be roughly estimated to cover a tract of 11 miles square, or 121 square miles. New York extends over a space of 12 miles by 2, only, or about

^a Besides the Long Island College Hospital, Brooklyn contains the City Hospital, with accommodation for 350 patients, and the King's Co Hospital, in which more than 2,000 are treated annually. Between two and three hundred insane patients are under treatment in the King's Co. Lunatic Asylum.

^b I was unable to obtain copies of the *City Inspector's Reports* for 1862 and 1863, which contain much valuable information on this subject.

^c This word is said to be a corruption of the Indian *Manhachtanienks*, of which the ill-omened interpretation is, "The place of drunkenness." Heinrich Hudson met the Indian sachems here in 1609, and the latter worthies got very drunk in honour of the occasion.

24 square miles. The surface of the island lies from 5 to 150 feet above high water mark. The Hudson, or North River, separates it from the state of New Jersey; the East River from Long Island, and these waters are connected by the Harlem River, which bounds the city on the north. The entire of the island is not yet covered with buildings, but at the present rapid rate of increase of population many years will not elapse before the city limits will include no ground unoccupied by streets and houses. In 1860 nearly one-half of the population dwelt north of Fourteenth-street, which is $2\frac{1}{2}$ miles from "the Battery," or southern apex of the island.

The population, during the early and colonial life of the city, grew with extraordinary slowness. In 1646, 1,000 inhabitants occupied 200 houses, not nearly filling the space between the Battery and Wall-street. The town wall, which named this now well-known street, was not built till 1653. In 1698 the population amounted to 4,300. In 1741 there were 1141 houses only, 129 of which stood on the west, or Hudson, side of Broadway. In short, it took 160 years for the population to reach the 23,000 which it had attained when the British left. At the last census (1860) the population was 813,668; having increased 298,121 in ten years.

The extent of the island has been increased at various times artificially, in two ways—by reclaiming ground from the rivers, and by filling up ponds, lakes, and marshes, which occupied a good deal of the area. This fact is important as affecting the sanitary condition of the city. The present Greenwich-street was part of the Hudson River a hundred and twenty years ago. The East River has been considerably displaced at the other side. The site of Fulton Market was a marsh in the Dutch times, called the Vly (or Valley) bounded by the higher ground of Gold-street. The Kolk (or Collect) was a lake of great depth, filled up, and now covered by Grand-street, Canal-street, and the City Prison, commonly called (from its Egyptian style of architecture) "The Tombs." A great deal of this made ground, in the lower part of the city, is either badly drained or incapable of drainage. A tide higher than the average fills the basements and cellars with water. In many streets, under these circumstances, a dry cellar is scarcely known; 30,000 persons live in such places, and the rate of mortality is raised appreciably by this state of things. Yellow fever and cholera epidemics reap their richest harvests here. Nor is the evil of insufficient or neglected drainage confined to the lower and older parts of the city. Up-town, when new "blocks" are being prepared

for building purposes, marshy ground, ten and even twenty feet below the level of the street, is not unfrequently filled up without any provision being made for the escape of the surface water which must gravitate to the bottom of the pervious filling. In some parts where this practice has been followed, the character of the endemic disease has been changed—but not for the better. In the townships (as we perhaps might call them) of Yorkville and Harlem (six and eight miles respectively from the Battery), intermittent fever has been nearly driven out by the filling up of marshy spots, and the occupation of the ground by dwellings; but bilious and other fevers have taken its place, and appear likely to increase in number and virulence.

Several causes contribute to produce the inefficient drainage and sewerage of New York. One is a want of system on the part of the controlling city authorities. Sometimes new streets are laid out and paved before the sewers have been constructed. Sometimes, when they are made, they are several feet above the level of the places they are intended to drain. Partly from this cause, and partly from the cheap-contract system which prevails extensively under the city government, and is closely akin to corruption and speculation, sewers are badly constructed at the outset, and the paving of the streets has to be continually ripped up for the purpose of repairing the drains. Many of the city sewers were built in 1838, and require to be re-constructed already. Again sanitary measures (and all other measures) in New York are made party or pecuniary questions, and discussed without any reference to their merits. Hence bills calculated to place the sanitary control of the city in the hands of those best qualified to exercise it are defeated on political or personal grounds. The City Inspector, in his Report for 1861, goes out of his way to abuse a measure of this nature, *because* it proposed a sanitary board of seven members, the majority of whom were to be physicians! England, he informs us, “gives to the unprofessional classes the controlling voice in its sanitary affairs, having arrived at the propriety of this conclusion by many lessons of experience!”^a

^a It is needless, in these pages, to dwell upon the importance of sewerage and drainage to health. To improvements in these points is chiefly, if not solely, attributable the improvement in the public health of London since the 16th century. Then the average duration of life was 29 years, and the annual death-rate 50 in 1,000; now these numbers are 37 and 25. So, also, Paris in the 14th century lost 1 in 20 of her population annually; in 1860, 1 in 35.

Intramural interments are forbidden—at least, an Act passed in 1850 prohibits burials below Eighty-sixth-street, except in vaults made previously to that date. All bodies deposited in these must be reported weekly. It follows from these provisions, and the fact that the “city” limits are those of the island, that New York affords unusual facilities for the exact ascertainment of the death-rate. The cemeteries are, of course, separated from the city by water, and no corpse is allowed, under a penalty of £40, to pass the ferries without a permit, which implies registration of the death, and its cause. In fact New York is the only city in the Union in which *every* death occurring within its limits is recorded; unless we except Philadelphia—the Legislature of Pennsylvania having recently passed an Act requiring careful registration of deaths. The situation of the latter city, however, is less favourable to this than the insulation of New York.

Vaccination is gratuitous, but very much neglected. The subject is at present occupying a good deal of attention, and it is proposed to invoke legislative interference. Compulsory vaccination, it is said, would not be practicable in America; but some remedy is absolutely required to prevent the spread of variola, and avert a catastrophe similar to that of 1720, when that disease swept away 549 persons—one-fifteenth of the population—in two months. Compulsory vaccination of immigrants has been suggested; and also to require candidates for all public offices to exhibit a certificate of vaccination. As yet, however, nothing has been effected.^a

The streets in the old Dutch part of the city are, many of them, narrow and irregular. The terrible fires of 1836, and others which occurred about ten years later, removed a good deal of the ill-ventilated quarter, and the newer parts leave nothing to be desired so far as the laying out of the streets goes. In fact, the street-system of New York is perfect, both for sanitary purposes and for general convenience; however utterly “un-English”—to use a favourite cant-word of the present day—it may be, and how much soever English Special Correspondents may sneer at “the city laid out like a gridiron.” The avenues, numbered from First to Twelfth,^b run north and south (roughly speaking), 100 feet in

^a One of the medical societies has lately been investigating the alleged effect of the *saracenia purpurea* in aborting variola. The result is unfavourable to its claims; though recently instances of its successful employment have been reported in the *Lancet*.

^b Avenues A, B, C, and D, are built on ground reclaimed from the East River.

width, and 800 feet apart. The streets cross these at right angles, at fixed distances of 200 feet, and generally 60 feet wide. Occasionally a street of 80 or 100 feet occurs, as Fourteenth, Twenty-third, Thirty-fourth, &c., where Broadway intersects the several avenues. They are numbered from First-street (two miles from the Battery) up to One Hundred and Fiftieth. The width and regularity of these thoroughfares ensure complete ventilation; and the trees planted along many of them contribute further to the purification of the atmosphere.

Sixteen parks, or squares, form the "spiracles" of New York. Most of them are public property, and open freely to all. The greatest of these is the new Central Park, on which no expense is spared, over £1,460,000 having been laid out upon the purchase and ornamentation of the ground up to January, 1863. This splendid park, which, when completed, will be the finest in the world, is free to all; and the "cars" running on those avenues which touch it carry passengers at twopence halfpenny from the heart of the business part of the city. The area of this park is 842 acres; of which 542 are disposed in lawns, shrubberies, &c. The ponds, lakes, ornamental waters, &c., occupy $29\frac{1}{2}$; and the Croton Lake and old reservoir, 142. Besides these, 94 acres have been used for carriage drives, bridle-ways, and foot-paths, which comprise in the aggregate a length of drive and walk of upwards of 30 miles. The park was visited, within the year 1863, by upwards 4,000,000 persons.

In water supply—a matter of no secondary importance to the sanitary condition of a city—New York is said to be superior to any city in the world, except Rome.^a Before the completion of the Croton Aqueduct the supply of water was scanty and precarious; it is now ample and unfailing. This great aqueduct, which conveys more water than any in the world, and is only two miles shorter than the longest—the Julian at Rome—was begun in May, 1837, and brought water into the distributing reservoir on the 4th July, 1842. It is $40\frac{1}{4}$ miles in length, 4 feet 9 inches wide at bottom, 7 feet 5 inches at top, and 8 feet 5 inches high. Its fall is $13\frac{1}{2}$ inches in the mile. It passes through nearly 7,000 feet of solid rock, crosses 25 streams, besides brooks; and finally, the Harlem river,

^a According to a report made by a Commission of Inquiry, relative to the waters of the Lhuis, the normal quantity of water for a town is 150 *lîtres* per head of the population per day. Rome receives 944; New York, 568; Carcassone, 400; Besançon, 246; Dijon, 240; Marseilles, 186; Bordeaux, 170; Genoa, 120; Glasgow, 100; London, 95; Paris, 90.

by a bridge 1,450 feet in length, and 100 in height, having 8 arches of 80 feet span, and 6 of 60. The total cost of this great work was £1,800,000.

This aqueduct discharges in 24 hours 60,000,000 gallons. The capacity of the receiving reservoir is 150,000,000 gallons; of the distributing reservoir, 20,000,000. The quality of the water supplied is excellent, for all household purposes, and the water-rate unoppressive. The house of a respectable professional man, or merchant, in a respectable street, would be charged £2 a-year for an unlimited supply.

The climate of New York is exposed to violent extremes of heat and cold. In the later Summer months the heat, though not thermometrically so high as the intertropical, is almost equally oppressive. I have known residents of the East Indies suffer even more from the sultry heat of New York than from the Indian sun. "Sunstrokes," also, seem to be more frequent than in the East; but this is in some measure due to the less degree of precaution against the effects of the sun, in dress and avoidance of exposure, taken in the western hemisphere. The following tables, though not including the last two years, will show the meteorological circumstances of New York:—

Summer Mean Temperature.

Year	June	July	Aug.	Sept.	Mean
1854	71°	79°	75½°	66°	72¾°
1855	69°	78°	74°	69°	72½°
1856	70°	77°	71°	68½°	71½°
1857	66°	75°	72°	64°	69¼°
1858	72°	74°	72°	67°	71¼°
1859	68°	73°	72°	62°	68¾°
1860	71°	75°	72½°	66°	71½°
1861	71°	74°	73°	69°	72°
Mean of } 8 years, }	69¾°	75½°	72¾°	66½°	71°

Winter Mean Temperature.

Year	Dec.	Jan.	Feb.	March	Mean
1853-54	33°	30½°	30°	34½°	32°
1854-55	29½°	32°	23°	34°	30°
1855-56	34°	20°	24°	32°	27½°
1856-57	32°	20°	36°	33°	30¼°
1857-58	39°	42°	26°	36°	38¼°
1858-59	34°	30°	35°	46°	36¼°
1859-60	30°	32½°	30°	43°	34°
1860-61	29°	28°	37°	40°	33½°
Mean of 8 } years, }	28¾°	29½°	30°	37¼°	32¾°

Mean for Years.

	1854	1855	1856	1857	1858	1859	1860	1861
Height of Barometer (in.)	29·96	30·00	29·96	29·89	29·89	29·92	29·89	29·90
Temperature (deg.), .	52½°	52¾°	50°	50¾°	51°	51½°	52½°	53°
Temp. of Evaporation, .	47½°	47°	44°	45°	44°	44°	46°	47°
Inches of Rain and Melted Snow, .	36	57	46½	57½	50	50	48½	50¾

In the Winter of 1859-60, the lowest point reached by the mercury was 1° in February. The barometer fell to its lowest point of the year 1860 (29·09 in.) during a great north-east snow-storm on February 18, and attained its maximum (30·50) on the 6th January. Its highest monthly range was in September; its lowest in March. The thermometer rose to its highest on the 29th June 94° in the shade, and 138° in the sun. During this Summer only 12 deaths from "sunstroke" were reported; less than had occurred in any year since 1850. In 1852, 211 deaths took place from this cause, almost all aliens.

In the Winter 1860-61, the thermometer fell to—10° (on the 8th February), being the lowest degree in 7 years. In twelve hours on this day the thermometer fell 50 degrees, the barometer rising 1 inch

during the same time. The highest Winter temperature was 70°—on the 28th February, 1861. On the 21st March 12 inches of snow fell. The greatest Summer heat of 1861 (in the shade) was 95°, on the 3rd August.

The special causes which tend to raise the death-rate in New York are three: the almost unrestricted sale of intoxicating liquors, the over-crowded state of tenement houses, and immigration.^a

Of the first cause it is only necessary to say, that the City Sanitary Report for 1861 states that there were, in that year, 11,000 grog-shops in New York, the population being about 820,000. The laws with regard to licensing these sources of disease and death are practically disregarded; and a considerable revenue, which might be derived from limiting and controlling them, is lost to the city. At that time they contributed to the municipal coffers little more than £1,400 annually.

The law does not at present interfere with the tenement houses, although their terribly crowded state is a fruitful cause of disease. To it is attributed the increase of typhus and typhoid fevers in 1863. Nor can we doubt the sufficiency of this cause, when we know that the principle on which these buildings are constructed is to obtain the greatest possible number of rooms from a given limited space. Some of these tenement houses occupy the entire "block," air and light penetrating to the inner apartments only through the passages from the outer door! Our gregarious countrymen crowd into these noisome dwelling-places, and thence arises a good deal of the mortality by which they increase the death-rate of the city.

The Sanitary Report for 1860 estimates that, of the 104,900 immigrants of that year, 50 per cent. remained in the city. If, as there is good reason to believe, the mortality amongst aliens is higher than amongst natives, the ingredient of 52,000 immigrants in a population of 813,688 will exercise no unimportant influence upon the death-rate of the city. The preponderance of alien mortality over native is especially observable in the infant population, more than two-thirds of the infant mortality being of foreign origin. For instance, in 1861, of 13,614 deaths of children—or, more properly, of persons under twenty-one years of age—the nativity of the parents is given in 9,427 cases. Of these 8,339 (or 88½ per

^a To these may be added the fact that many deaths by accident occurring outside the city, as by drowning in the rivers, &c., are credited to the city—the bodies being brought in, and there registered.

cent.) were of foreign parentage. Absolutely, the mortality of the immature alien population is represented in the Sanitary Reports as frightfully high. In 1860 the deaths of immigrant children under five years of age bore to the living the ratio of $2\frac{2}{3}$ to 5; of those under two years the ratio $3\frac{1}{2}$ to 5. The deaths under five exceed in number those between the ages of five and sixty. The ratio of infant to adult mortality in New York is 1 to 60; while in Philadelphia, where there is little or no immigration, it is 1 to 65.^a

Two more facts illustrate the effect of immigration upon the death-rate. In 1847 1,396 deaths occurred from typhus fever introduced from Ireland. Again, in June, 1859, 800 Mormons landed at Castle Garden, of whom 700 went westwards immediately. Of the remaining hundred—half of whom were children—80 died within three weeks, were buried at the public expense in the "Potter's Field," and their deaths credited to the city.

Notwithstanding all the drawbacks now mentioned, New York is said by her medical partisans to be a healthy city. The mortality is stated to be only a very small fraction above that of London (where there is no immigration), and to be below that of Paris. On the other hand, it was stated in the *New York Herald*, some months ago, that a "Citizens' Association," recently established for purposes of municipal and sanitary reform, having consulted "a number of leading physicians" with reference to the public health, were informed that the deaths in the city during 1863 were 25,196, or 1 in 35 of the population; whereas in Philadelphia, Boston, Newark, and Providence the proportion was 1 in 43; and that the rate of mortality is still lower in London and Liverpool. On what data these figures are based does not appear. The Report for 1860 gives 22,710 deaths in 814,254 inhabitants, or 1 in 36, which agrees pretty closely with the former part of the above statement. The same authority *asserts* that the mean duration of human life is $3\frac{1}{2}$ per cent. higher in New York than "in the cities of Europe." The Report for 1861 informs us that the mortality remained nearly constant from 1851 to 1861 inclusive (being 22,117 in this year), although the population had increased in that interval by 300,000. In 1861 the deaths were less by 472 than in 1853, which would seem to show that the sanitary condition of the city is at least not deteriorating, whether its normal standard be high or low. But

^a But 1 to 60 in Buffalo; so that we cannot attach much importance to these facts with reference to the influence of immigration upon infant mortality.

the comparison of these two years gives us this fact also, that at least one-third more children, under one year of age, died in 1861 (the total being 6,189) than in 1853. I regret that I have not data at my disposal to enable me to compare the sanitary condition of New York with that of other large cities.

We come now to the hospitals of New York, general and special. The oldest of these is the *New York Hospital*, situated in Broadway. This institution received a charter from George III., in 1771; and a plot of ground having been purchased—in the country then, in the heart of the business part of the city now—the first stone was laid in 1773. The nearly-completed building was burned down in 1775; and the outbreak and continuance of the revolutionary war prevented its restoration for sixteen years. In January, 1791, patients were first admitted. A branch establishment for lunatics was opened in 1821, at Bloomingdale, a few miles “up town” from the original hospital. The buildings of both have received important additions since 1852, by means of legacies, donations, and loans; 165,000 dollars were supplied from private sources between 1852 and 1862. The New York Hospital can now accommodate 300 patients.

The current expenses of the establishment are met, principally, by the revenue derived from pay-patients; with a very trifling exception it has no fixed income. Those patients whose means allow pay ordinarily four dollars a-week—a sum less than the average cost of their board, exclusive of medical aid, rent, and expense of maintaining grounds and buildings. Some pay at a higher rate; and since 1859 female pay-patients are charged but three dollars. A proportion of cases, varying from one-third to one-half of the whole, are received gratuitously, as unable to contribute to the cost of their support. The ordinary receipts during 1863 amounted to 55,469 dollars, of which 14,173 was paid, by the public, for board of soldiers, and 23,063 for board of seamen; the remaining 17,841 having been contributed by pay-patients. The expenses exceeded those receipts by 25,650 dollars.

In consequence of the situation of this establishment, a large proportion of surgical cases and accidents are received. Thus, of 373 deaths occurring in 1863, 158 were the subjects of coroners' inquests; of 2,091 surgical cases, 880 resulted from burns, mechanical injuries, and sudden casualties. The varied nature of these is apparent from an analysis of the causes of the 158 deaths investigated by the coroners: 19 were railroad accidents; 24 falls from

buildings, &c.; 19 burns or scalds; 10 run over; 2 suicides; 28 cases of stabbing, gunshot wounds, &c.; 13 *coup de soleil*; and 43 unclassified.

Incurable cases, except of this nature, are not admitted, nor are cases of "contagious diseases."

The general results of treatment in 1863 were not so favourable as in the preceding five years; 346 remained from 1862, and 2,843 were admitted, making a total of 3,189 treated. Of these 1,919 were cured, 421 relieved, and 373 died—of whom 215 died from natural causes; of the total treated 6·82 per cent. died. Of causes of death 47·50 per cent. were surgical, 52·50 medical. Of all "discharged" (including 7·26 per cent. deaths) 67·55 per cent. were cured, besides 15·20 relieved. The average daily sick during the year was 265·96. As regards nationality, of 2,843 individuals treated, 1,053 were natives of the United States, 923 of Ireland, 320 of Germany, 161 of England, 55 of Scotland.

The working medical staff consists of four visiting and two house physicians, six visiting and two house surgeons. Clinical lectures are delivered during the Winter months, free to all without fee. A library of 7,000 volumes is attached to the hospital, to which 635 dollars of the year's expenditure was devoted in 1863; and a good museum, which received 621 dollars.

The *Bloomingdale Asylum for the Insane* is, as has been mentioned before, a branch of the above, and is managed by a committee of six of the Board of the New York Hospital. It was opened in 1821, and led the way, in the United States, in the improved moral and medical treatment of the insane. The Legislature granted £2,000 a-year for a term of years, by mortgaging which a sum was raised for the purchase of land and erection of buildings. The surplus income of the parent hospital was also devoted to this one. Improvements recently made in the buildings have rendered possible a better classification of female patients, of whom there are now thirteen classes. Patients were not at any time received gratuitously to any considerable amount, though insane poor were, for many years, admitted at a low rate, which was paid by the towns or counties to which they belonged. When public asylums were established in New York and Utica the latter practice also was abandoned. We are beginning to feel, in these countries, a want which this institution supplies—the bringing of the best treatment of the insane within the reach of persons of moderate circumstances.

Of 53,384 dollars received in 1863, 53,121 was expended upon the board of patients. The expenditure exceeded considerably the income in both these institutions; and a renewal of the State grant is solicited and urgently needed. This would enable the asylum to receive the full number of patients which it is capable of accommodating, namely, 300; whereas, in 1853, the total treated amounted to 272 only—157 remaining from 1862 and 115 admitted—124 males and 148 females. Of 14 deaths, 5 resulted from exhaustion due to maniacal excitement, 3 from phthisis, 3 from general paralysis, 2 from old age, and 1 from epilepsy.

We give, for comparison with similar institutions in this country, a table showing the state of this asylum, and the results of its practice during fifteen years:—

Year	Admitted	Total	Discharged and Died	Recovered	Improved	Not improved	Died	Remaining	Average Number
1849	95	214	111	44	33	13	21	103	112
1850	97	200	90	40	15	7	18	110	110
1851	95	205	83	43	20	9	11	122	114
1852	104	226	107	47	25	15	18	119	117
1853	135	254	130	49	27	32	22	124	133
1854	122	246	119	48	29	16	26	127	126
1855	107	234	107	52	13	23	19	127	127
1856	134	261	117	54	27	17	19	144	140
1857	128	272	126	49	37	25	15	146	141
1858	112	258	113	34	34	34	11	145	146
1859	138	283	131	55	32	26	18	152	152
1860	150	302	147	50	46	22	29	155	159
1861	111	266	115	42	36	18	19	151	154
1862	117	268	111	48	24	19	20	157	148
1863	115	272	130	53	47	16	14	142	151

Bellevue Hospital is by far the largest and most important in the city. It can accommodate 1,350 patients, and all gratuitously. It

was opened in 1816, as an hospital for the sick and insane poor, and also as a penitentiary and almshouse. The latter departments were subsequently removed to Blackwell's Island (in the East River), which, containing 120 acres, was bought by the city for £6,000, in 1828.^a At a later period (1839) the lunatics were removed to the new asylum, built also on the island. In 1856 the hospital buildings were greatly enlarged; and in 1862 we find that a sum of 11,876 dollars was expended upon the edifice.^b This and all the other institutions mentioned above are under the control of the Commissioners of Public Charities and Correction, and supported by public money. The expenses of the hospital in 1862 amounted to £21,400.

The Commissioners' Reports for the last two years give in the following results:—

Year	Remained	Admitted	Born	Total	Discharged	Died	Remaining	Total	Average Daily No.	Average Daily Cost
1862	702	4,406	393	5,501	4,267	608	626	5,501	754	c. m. 25 7
1863	626	6,600	419	7,645	6,021	864	760	7,645	838	24 7

Many of the admissions during these two years were soldiers, the Government of the United States having made arrangements with the hospital authorities for their reception. Between July and December, 1862, for instance, 2,139 soldiers were received, the wards containing from 200 to 700 of them at a time.

Of the admissions, in 1863, 1,756 were natives of the United States (exclusive of 419 *born* in the house), 4,151 were Irish, 518 German, 276 English, 125 Scotch; of 50,000 admitted in ten years more than four-fifths were of foreign birth.

The principal causes of death were:—

^a The penitentiary contains 1,736 cells, with workshop and offices; the almshouses have accommodation for 2,000 paupers.

^b Some interesting memorials of the Revolution are preserved in this building. Let into the wall of the entrance-hall is the flagstone on which Washington stood when taking the oath of office as first President of the United States. On the railing now in front of the doorway he rested his hand while delivering his inaugural address. The weather-cock was removed from the old "Federal Hall" in Wall-street, and dates from 1700.

Year	Phthisis	Bright's Disease	Typhus	Typhoid	Puerperal Fever and Obstetrical cases	Marasmus	Coup de Soleil	Delirium Tremens	Coroners' Cases
1862	147	50	5	15	5	38	—	—	—
1863	129	75	92	12 ^a	6	—	18	14	248

In the latter year the proportion of deaths to treated was 11 per cent. The mortality was 1 in 76 obstetrical cases (455); 1 in 3·7 “police and accident cases” (of which the number was increased by the July riots); 1 in 9·5 infants born and treated; and 1 in 4·27 cases of typhus and typhoid (526). The high rate of mortality in these last is attributed to the late period of the disease at which the patients were brought to hospital. Of the 123 who died, 50 sank during the first six days after admission. In 476 cases treated longer than six days only 1 in 6·5 died. The riots, and the discharge of sick and disabled men from the army, as well as the prevalence of typhus, contributed much to raise the death-rate in this hospital during 1863. The warden states that, deducting incurable and coroners’ cases, the mortality is very little over 4 per cent.—“the very best result ever obtained in hospital practice.”

The increase of typhus, and its spread from its own wards into other parts of the house, attracted observation and led to a good deal of discussion. Five of the resident medical staff were carried off by this disease. The medical officers, in their report, attribute the mischief to deficient ventilation, asserting that in Summer, when the windows are open freely and continually, typhus is less prevalent than in Winter, when they are kept shut,^b and though foul air can escape, fresh air cannot enter. As a remedy they propose the erection of one or more wooden pavilions on one of the islands—one-story buildings, accommodating fifty patients in each, and isolated from all other sick. The warden, on the other hand (not, however, a medical man), strenuously defends the ventilation, which is, according to him, incapable of improvement, pointing to

^aIn another part of the Report I find the total deaths due to typhus and typhoid stated as 123. Some of these returns are so carelessly prepared, and many so carelessly printed, that I can with difficulty classify the causes of death. What does “marasmus” mean as a cause of death?

^bThe number of cases was greatest in December (65), in which month especially the disease spread into other wards, “and those amongst the best ventilated and open.”

the fact that the *mortality* from typhus is *less* in the Winter months. When the buildings were being enlarged, in 1854-55, a Committee of Ventilation was appointed, and the architect had visited various institutions in Europe in order to examine into their systems of ventilation. His remedy is the same as his opponents'—isolation of fever cases. I could detect no olfactory sign of defective ventilation in any part of the hospital; and the fever ward was especially airy and sweet. Ten visiting physicians and ten visiting surgeons, assisted by eight house physicians^a and six house surgeons,^a perform the active medical duties of the hospital. The former serve in turns, and gratuitously; the latter receive quarters and about £50 a-year each. The wards and the clinical instruction, which is most careful and valuable, are free to students; the number of these registered as attending the hospital last Winter was 492—202 belonging to the Hospital Medical College; 88 to the College of Physicians and Surgeons; 39 to the University School; 7 to the New York Medical College; 36 to the New York Homeopathic Medical College; 5 to the Metropolitan Medical College; 7 to the “Hygeia Therapeutic Medical College;” 9 to the Women’s Medical College;^b 11 to other States and Canada.

A small steamboat plies regularly between Bellevue Hospital (which is situated on the bank of the East River), and Blackwell’s Island, for the conveyance of medical staff, sick, &c., &c., to and from the public institutions. The *Island Hospital* was opened for patients in 1860; its predecessor, known as the Penitentiary Hospital, having been burnt down in 1858. It is the largest institution of its kind in the country, occupying a space of 354 by 122 feet. It consists of a centre building, 52 by 90 feet in area, and 60 feet high, and two wings, 50 by 122 feet in area, and 53 feet in height. It contains 1,500 beds, principally occupied by chronic cases. The expenditure in 1862 amounted to £11,920; and the average daily cost of each patient was 14·2 cents. The medical staff is the same as that of Bellevue. For purposes of clinical instruction the two institutions are combined.

The following Table shows the work done in this Hospital during 1863:—

^a These gentlemen have to pass a difficult professional examination before appointment.

^b I sought for this institution in a house, in Broadway, having the title over the door; but the birds had flown, and I was unable to discover their new nest.

	White Males	White Females	Black Males	Black Females	Total	Natives	Foreign- ers
Remained, .	295	458	4	6	763	70	693
Admitted, .	2,679	3,931	24	34	6,668	1,425	5,243
Treated, .	2,974	4,389	28	40	7,431	1,495	5,936
Died, .	292	346	6	3	647	112	535
Discharged, .	2,463	3,625	15	34	6,137	1,337	4,800
Total, .	2,755	3,971	21	37	6,784	1,449	5,335
Remaining, .	219	418	7	3	647	46	601

The average number of sick was 619.

The general rate of mortality for the year was 8·71 per cent. The principal causes of death were:—Phthisis, 221; Bright's disease, 43; delirium tremens, 41; typhoid fever, 37; typhus, 29; meningitis, 17; tertiary syphilis, 15.

In the previous year (1862) the total number treated had been 9,407, of whom 643 died; *besides* 998 soldiers, of whom 14 died. The rate of mortality was, therefore, much lower—6·84 per cent.; 35 deaths were due to phthisis (?)^a; 88 to phthisis pulmonalis; 34 to Bright's disease; 30 to delirium tremens; and 11 to the same complicated with pneumonia; 28 to diarrhea; 13 to old age; 10 to meningitis; 10 to scorbutus; 9 to dysentery; 9 to typhoid; 7 to typhus.

The *New York City Lunatic Asylum* is also situated on Blackwell's Island, and receives gratuitously the insane poor of the city. It is under the supervision of the same Commissioners as the last two hospitals, and was opened in 1839, when the patients were transferred to it from Bellevue. A small charge has lately been imposed upon those who are able to pay. The number of these was

^a *Vide* note ^a, p. 313.

increased since the previous year, and they belong to a better class. The total expenditure of the asylum was 78,687 dollars, exceeding that of the previous year by more than 1,600. From this is to be deducted the receipts from pay patients, amounting to 2,490 dollars. The expense of each patient per week in 1862 was 1 dollar 55 cents; in 1863, 1 dollar 92 cents.

	White Males	White Females	Black Males	Black Females	Total
Remained, .	274	484	8	3	769
Admitted, .	123	215	0	4	342
Treated, . .	397	699	8	7	1,111
Discharged, .	75	145	0	3	223
Died, . .	68	49	0	0	117
Total, . .	143	194	0	3	340
Remaining, .	254	505	8	4	771

Of the 342 admitted 93 were natives (66 of New York, and 27 of other States), and 249 foreigners, whose nationality was—Irish, 144; Germans, 63; English, 14; French, 8; Scotch, 6: 64 males and 75 females were single; 51 males and 117 females married; 27 were widows, and 8 widowers.

The religion of 190 was Roman Catholic; of 138, Protestant; and 14 were Jews. The ages of patients were as follows:—

Ages.	Males.	Females.
Under 20, . . .	4	14
Between 20 and 30, . . .	36	79
" 30 " 40, . . .	33	67
" 40 " 50, . . .	31	29
" 50 " 60, . . .	12	21
" 60 " 70, . . .	6	3
" 70 " 80, . . .	1	6
Total, . . .	123	219

Of the discharged, 163 were recovered, 38 improved, and 22 unimproved. Recoveries were 47 per cent. of admissions; and nearly one-half took place within 3 months of their reception into the asylum.

The mortality was 10·5 per cent., having been only 8 per cent. in 1862. Many patients were sent in to die in the asylums, hopelessly affected with chronic disease. Of the 117 deaths, 43 were due to phthisis; 24 to general paralysis or ramollissement (which existed before admission); 6 to epilepsy; 6 to old age; 4 to apoplexy; 1 to suicide; and 1 to accidental drowning.

The Report states that, "unquestionably" the hair of the insane becomes white at an earlier age than that of the sane. It also gives the following curious Table, showing the colour of hair and eyes of patients admitted between 1848 and 1863:—

Hair.		Eyes.	
Brown or chestnut,	. 3,866	Brown,	. 1,240
Black,	. 1,272	Black,	. 619
Gray or white,	. 504	Gray,	. 1,085
Auburn,	. 105	Blue,	. 3,142
Red,	. 98	Hazel,	. 340
Flaxen,	. 581	Pink, ^a	. 1
No hair,	. 1	Not noted,	. 103
Not noted,	. 103		

The war excitement has not increased the number of insane. It would seem rather to have diminished it, or at least to have diminished the number of admissions into the asylums. In 1863 only three soldiers were admitted. Many lunatics who are only partially insane, but can find no employment in the city in peaceful times, can readily obtain admission into the army now. Nor has the war as yet affected the character of delusion, though no doubt hereafter the number of "generals," "governors," and "presidents," within the asylum walls, will be increased.

The system of treatment has, of course, been greatly improved in America as in Europe. In this asylum, 17 years ago, of 383 inmates at least 30 were kept under physical restraint, and 40 more confined constantly to their rooms. At the present day out of 800 patients, not 2, on an average, are confined to their rooms. The restraining strap is used only at long intervals, and then only for

^a This was an Irish Albino.

the purpose of counteracting suicidal tendencies. Iron wristlets or leg-locks have not been employed since 1848.

The Report for 1862 remarks that very few of the insane patients die of acute disease; most sink under chronic affections of the lungs or bowels, "although in all cases of insanity there must be some changes in the brain. In many instances these changes do not seem to be the immediate cause of death; but there is an indirect action, or cutting-off of the supply of nervous force from the other vital organs, which lessen [*sic*] their capability of resisting disease, and diminishing their recuperative powers." (!)

The same Report gives a table showing the time passed in the asylum by the "discharged cured":—

Under 3 months,	.	.	.	84
Between 3 and 6 months,	.	.	.	28
" 6 " 12 "	.	.	.	25
" 1 " 3 years,	.	.	.	23
" 3 " 6 "	.	.	.	3
" 6 " 12 "	.	.	.	2
" 12 " 18 "	.	.	.	0

The admission of criminal lunatics, real or alleged, is an evil which will shortly be removed by the completion of the State Asylum at Auburn, for this class of insane patients. "A certain portion" of them never exhibit any signs of insanity. In 1851 a criminal was acquitted on the ground of insanity; six physicians examined and pronounced him sane, and he was discharged from custody.

Before leaving the island I shall notice the *Small-pox Hospital*, which is a department of the great hospital, and was opened in January, 1857. The expenditure in 1862 amounted to 3,689 dollars, the average daily cost of each patient being 35.07 cents.; 15.7 per cent. of treated (357) died.

The return for 1863 is as follows:—

	White Males	White Females	Black Males	Black Females	Total	Natives	Foreign
Remained, . .	11	11	0	0	22	3	19
Admitted, . .	135	110	4	3	352	51	201
Treated, . .	146	121	4	3	274	54	220
Died, . . .	8	9	1	1	19	3	16
Discharged, .	125	109	0	2	236	41	195
Total, . . .	133	118	1	3	255	44	211
Remaining, .	13	3	3	0	19	10	9

The mortality was only 6·93 per cent.

Before returning to the city proper I made a visit to two other islands in the East River, devoted to public charitable purposes. Randall's Island was bought by the Corporation, in 1835, for £10,000. On it stands the *Nursery Hospital*, which is also under the control of the Commissioners of Public Charities and Correction. It was opened in 1851, and has received since then an average of 1,770 children annually. The expenditure in 1862 amounted to 56,328 dollars. The following are the returns of two years:—

Year	Remained	Admitted	Total	Discharged	Died	Remaining	Deaths to Treated per cent	Average Sick
1862	275	898	1,173	897	50	226	—	—
1863	226	1,362	1,588	1,293	105	190	6·61	202

Of the 50 deaths of the former year 7 took place in a subordinate asylum for idiots. Deducting these the mortality would be 3·66 per cent.

On Ward's Island stands the *Emigrant Hospital*, which is under the control of the Commissioners of Emigration, and is capable of accommodating about 1,500 patients. Nearly 6,000 annually receive medical treatment in this establishment.

Of the four principal hospitals of the city itself, two of which have already been noticed, *St. Vincent's* is third in order of time. It was opened in 1849. It is under the charge of the Sisters of Charity of St. Vincent de Paul, and supported by voluntary contributions and the weekly payments of patients—receiving no assistance from city or State. It contains 100 beds, many of the occupants of which are unable to pay the usual charge—four dollars a week for males and three for females, paid four weeks in advance. There are private rooms for clergymen or others, well furnished and comfortable, at higher rates. A spacious garden adds considerably to the advantages of this hospital. The ordinary wards are large (about 40 feet by 15), clean, and well ventilated, being perfectly free from unpleasant odour. They are heated by steam, in a peculiar and effective manner. Cases of sheet-iron, about 7 feet by 4 in length and breadth, and 4 inches deep, are fixed upright in the wards, close to the wall, and filled with steam, the supply of which is regulated by stop-cocks. This plan not only heats the wards equably and well, but affords to convalescents the comfort of a warm surface at which to sit.

Of the revenue in 1862, 469 dollars were donations, 2,094 receipts from private rooms, and 9,806 from the general wards. 629 patients were treated in 1862, of whom 530 paid in full for their board, 45 paid a weekly average of one dollar, eighty-three and one-fifth cents, and 54 were free.

The working medical staff consists of three visiting physicians, three visiting surgeons, and a resident.^a

In 1862, 629 were treated, of whom 103 died, on 16·38 per cent. Of these deaths 54 were due to phthisis (out of 143 cases), 3 to typhus (9), 2 to typhoid (18), and 4 to old age. The greatest number of patients was treated in 1852, 899, with 114 deaths, or 12·68 per cent. The average number during 12 years (1851–1862), was 594, the average deaths 95, or 15·91 per cent.

The high rate of mortality is explained partly by the large number of phthisical cases admitted, to whom this hospital is more

^a None of the visiting staff of this, or any other hospital in New York, receive any remuneration for their services.

freely open than others, partly to the admission of moribund patients for religious reasons.

There is no clinique.

St. Luke's Hospital was founded in 1846, and incorporated in 1850, but did not receive patients until 1858. It bears the same relation to the Protestant Episcopal church as *St. Vincent's* to the Church of Rome. "*Corpus sanare animam salvare*" is its motto, and it is less an hospital containing a chapel than a church with an hospital attached. The director is a resident clergyman, the nurses and managers a Protestant sisterhood (one of whom compounds, as does also one of the sisters in *St. Vincent's*). *St. Luke's Church* forms the centre of the building, and the four principal wards open into it at right angles, two into the nave, and two into the galleries. By this means the sick who are unable to be present at the regular services in church, can hear them in their beds. Evening prayer is said daily at a fixed hour, and the director devotes the mornings to spiritual exercises at the bedside.

The regular charge for board is four dollars per week for adults, and three for children, of whom we saw a large number in the hospital. The parish churches and benevolent individuals maintain a certain number of free beds for persons recommended by them, or for casual cases of sudden injury, &c.

There are four attending physicians, and as many surgeons, besides a resident physician, who receives a higher salary than is allotted to the same official in other hospitals, it being judged advisable to retain a resident for several years, rather than to appoint a new one every six or twelve months.

The wards are beautifully neat and clean, as, indeed, the wards of New York hospitals, with very few exceptions, always are. In this establishment three peculiarities of its construction specially ensure a free supply of pure air to the wards. Firstly, the wards communicate by curtained doorways with the spacious and empty church; secondly, a wide corridor at the north side runs along the whole length of the building between the wards, which open freely into it, and the external wall; thirdly, each ward has a dining-room attached to it for the use of convalescents, an arrangement well worthy of imitation. These advantages more than counterbalance the ill effects of drawers and clothes presses, which form an objectionable feature of the wards.

There is no clinique.

I am not in possession of any late information upon the results

of treatment in this hospital. In 1860 the proportion of deaths to treated was 12.61 per cent., and 14.65 in 1861.

The Jews' Hospital, *The Coloured Home* (the Home not being coloured, but its inmates), and the *Coloured Orphan Asylum* (which was sacked in the riots of July, 1863), complete the list of New York general hospitals, but do not require further notice.

Of special institutions the most interesting and important is the *Woman's Hospital*, which has been working noiselessly, but most efficiently, for nine years. To this hospital hundreds of women owe the alleviation or cure of one of the most distressing ailments peculiar to their sex; while the profession, I trust, will some day share the immense experience in vesico-vaginal and recto-vaginal fistulæ, and their treatment, acquired here by Dr. Marion Sims and his most able and skilful successor, Dr. Thomas Addis Emmett.^a

This hospital was opened in 1855; it contains about 30 beds, and is supported partly by a small State grant (in return for which each county has one free bed), partly by subscriptions and donations, and partly by the payments of patients, who are charged from four to ten dollars a-week, according to the ward. In 1862 the state contributed 628 dollars, subscribers 433, donors 2,292; and 2,772 were derived from patients. However, for four months of the Summer and Autumn the wards were closed for want of funds, and only re-opened by means of a loan of 1,000 dollars from the Governors of the New York State Woman's Hospital (of which more hereafter). In 1863 the revenue amounted to £1,500.

The board of management consists of thirty-five ladies, including officers.^b The medical staff comprises three consulting physicians, three or four consulting surgeons, with an attending physician, who sees out-patients twice weekly, and an attending surgeon,^c who operates twice a-week, besides a resident physician who has charge of the in-patients.

The work done in 1863 was as follows:—610 out-patients were treated—the number having been only 200 in 1861; 110 were treated in the house, of whom 41 were discharged cured, 42 discharged improved—requiring more than one operation, and sent

^a About 400 successful operations for vesico-vaginal fistulæ have already been performed by Dr. Sims, and more than 140 by Dr. Emmett.

^b The fifth bye-law illustrates the influence of sex upon committees—"No member shall leave a meeting before its adjournment, nor shall any lady change her seat or hold unnecessary conversation before the board has adjourned."

^c Dr. T. A. Emmett.

home to recuperate. Two were discharged as incurable. One patient died after the successful removal of a large fibrous uterine tumour, but from causes unconnected with the operation; 85 surgical operations were performed in the hospital during the year.

From this most valuable institution has sprung the *New York State Woman's Hospital*, one pavilion of which is to be erected immediately. The city has given a plot of ground bounded by Fourth and Lexington avenues, and Fortieth and Fiftieth-streets—about 2,500 by 400 feet, free of all debts and incumbrances. More than £10,000 has been raised by donations, entitling the governors to receive from the comptroller of the state £5,000; and it is hoped that these sums will be doubled. This noble hospital, built on the pavilion plan, will accommodate 500 patients, requiring special treatment more, perhaps, than any other class of human sufferers.

Two establishments are devoted to the treatment of diseases of the eye and ear. The *New York Ophthalmic Hospital*, in Fourth-avenue, was opened in 1852, and in ten years from its foundation had treated nearly 10,000 patients. Clinical lectures are delivered here.

The other and older institution, the *New York Eye Infirmary*, was the first of its kind in the United States, having been founded in 1820.^a It is open to the poor of all parts of the State, receiving grants from both State and city treasuries, and is supported besides by voluntary contributions. It has lately received a bequest of £2,000, and the surgeons are endeavouring to raise £3,000 or £4,000 more, for investment, in order to render the institution independent of precarious assistance, and to enable it to extend the advantages of in-door treatment.

The medical staff consists of 4 surgeons, 2 consulting surgeons, and 2 assistants. The work done in 1862 was as follows:—4,842 cases of eye and 521 of ear disease were treated, making a total of 5,363; of whom 2,775 were natives and 2,588 foreigners. In the house 108 males and 51 females were received; total, 159.

From the foundation of the infirmary to January 1, 1862, 77,519 patients had been treated, making a total of 82,882 to the end of that year.

Clinical instruction, and courses of lectures of the most valuable kind, are given in this institution, which also contributes largely to the advancement of ophthalmic and aural surgery through the medical journals.

^a The Massachusetts Charitable Eye and Ear Infirmary was founded in 1824.

It only remains to enumerate the remaining special hospitals of New York. *The New York Asylum for Lying-in Women* was founded in 1823. It is under the management of a board of twenty-one ladies, and is supported entirely by voluntary contributions. The rule excluding all but married women is stringently enforced. *The Institution for the Deaf and Dumb*, for many years identified with the well-known name of Dr. Harvey P. Peet, was incorporated in 1817. Finally, *The Institution for the Blind* dates from 1831.

From the hospitals we come to the *Dispensaries* of New York, which are now seven in number, supported chiefly by voluntary contributions, but assisted by annual appropriations from the Common Council,^a and occasional small grants from the State. The City Inspector, in his Report for 1861, pronounces their "organization and internal police" to be "faultless." The oldest is the "New York Dispensary," founded in 1791—second in the United States, the Philadelphia Dispensary having been organized in 1786, and the Boston in 1801. The youngest is the "Manhattan," founded in 1862. Their operations extend over the space included between Sixtieth-street (five miles from the Battery) and the two rivers.

The expense of these institutions in 1862, excluding repairs and management, or permanent improvements, amounted to £4,240; the average cost of medical, surgical, and vaccine service to each patient being 14½ cents (7¼d.). The Reports estimate the pecuniary value of the dispensary system to the public, for the same year, at more than £63,500.

In 1861 the dispensaries treated 135,235 persons—16·60 per cent. of the entire population, and one-half of the city's "annual illness." The average attendance at each dispensary in that year was 90 daily. The proportion of foreign to native applicants for advice has been as high as 3 to 1; but during the three years, 1859–1861, it was only 57 to 54. The proportion of deaths to treated was, in 1861, 0·77 per cent.

In 1862 the number of persons who received advice, &c., from the dispensaries was 145,598; 274,648 prescriptions were dispensed, and 18,408 persons vaccinated. Since 1804, when vaccination began to be practised, 275,844 were operated upon in the dispensaries of New York.

The staff of each consists of two or more visiting physicians, who

^a The donations by the city in 1862 amounted to 6,750 dollars.

attend at the dispensary at least twice a day, examine the register of names and addresses of applicants which is kept there, and visit accordingly; a house physician, whose duty it is to be present from 9, a.m., till 4, p.m., to classify the patients attending for advice, and to prescribe for emergent cases. These officers receive remuneration for their services. At the Demilt Dispensary (founded 1851), with which we are best acquainted, patients attending at the institution are divided into *Seven* classes, to each of which two medical officers are attached, who do duty upon alternate days. This labour is altogether gratuitous. The classes are—diseases of heart, lung, and throat; of head, abdomen, &c.; of eye and ear; of children; of the skin; of women; and surgical cases.

The work of the dispensary in 1862 may be briefly summarized thus:—10,088 males and 14,457 females (total, 24,545) received advice and medicine at the house; 2,323 males and 3,238 females (total, 5,561) were treated at their dwellings—total treated, 30,106; 58,028 prescriptions were dispensed; 3,318 cases were vaccinated (478 more than in the previous year); deaths were 1 in 135. The average cost of each patient for attendance and medicine was $18\frac{1}{2}$ cents ($9\frac{1}{4}$ d.)—it was 20 cents during the ten years 1853–1862. The receipts of the year were 5,224 dollars, to meet an expenditure of more than 6,200. The population of the district allocated to this dispensary increased from 31,557 in 1850 to 67,329 in 1855, and 106,489 in 1860.

Medical Societies throw considerable light upon the state of the profession in any country; nor would our paper be complete without some account of those of New York. I hope I shall be pardoned if I digress a little from our proper subject in order to notice two societies which do not belong exclusively to New York City, but to the State and the Union.

The *American Medical Association*, under the title of the “National Medical Convention,” was founded in New York in 1846. In the following year its organization was completed, and it adopted its present name. It represents the entire medical profession of the United States. Each medical school, each considerable hospital, and each medical society in the Union sends delegates to the meetings, which like those of the British Association for the Advancement of Science, are held annually in the various large cities of the United States. At these assemblies most valuable papers are read, professional subjects are discussed, and points of

medical ethics are decided authoritatively. In this last particular this association supplies a want which we often feel in these countries. At their first meeting in 1847, a code of medical ethics was adopted setting forth the mutual duties of the profession and the public, as well as of medical men amongst themselves.

The transactions of this society are well known to the profession in Europe. Each member receives a copy, of course; the cost of publishing which, as well as all other expenses of the association, being defrayed by an annual subscription of not more than three dollars. The meeting of the current year took place in New York.

The *New York State Medical Society* was established by an Act of the Legislature passed in 1806, and was organized in 1807. Each county medical society sends as many delegates as the county elects Members of Assembly (the Lower House of the Legislature), and each medical college in the State has one delegate. The Academy of Medicine (of which we shall speak presently), is also represented. Sixteen "permanent members" are elected annually from those whose term as delegates has expired. The society meets annually at Albany—the capital of the State—and a volume of transactions is published every year at the public expense. The papers read at the meetings of the county medical societies, are, if approved of by them, referred to the State Society, which decides upon their fitness for publication in the transactions.

In 1862 this society numbered 272 members, besides those on its honorary list.^a

The oldest medical association of the city is the *New York County Medical Society*, which was incorporated in 1806. It sends seventeen delegates to the State Society. Its meetings are held monthly, and the papers read are, as we stated above, referred to the former for publication. The annual subscription is one dollar. It is a curious fact that the only name on the honorary list of this society is Hahnemann's! The subject of honorary membership, however, is under consideration.

The *New York Academy of Medicine* was organized in 1817, and incorporated in 1851. It consists of resident, non-resident (100), corresponding, and (50) honorary members. Its professed objects are the cultivation of the science of medicine, the advancement of

^a Of the four honorary members elected in 1862, one, Dr. Carpenter, is an Englishman; and another is Dr. T. G. Geoghegan of this city.

the character and honour of the profession, the elevation of the standard of medical education, and the promotion of the public health. Meetings are held in one of the rooms of the University buildings twice a month, at which papers are read and special subjects discussed by the leading members of the profession. Two volumes of Transactions, as well as Bulletins, have been published. The annual subscription is five dollars; the number of resident fellows is 250.^a

An "oration" is delivered annually, in November, by one of the most distinguished members, chosen for the purpose by the Academy. On the last occasion the orator was Professor Draper—a name well known in the world of literature and science.

The *New York Pathological Society* was organized in 1844. It meets twice a month except in August. The yearly subscription is two dollars and a-half.

In two points the system of this Society differs from that of the corresponding institution here. Free discussion upon the preparations presented is allowed, and in this way much valuable information of similar or analogous cases is elicited. The minutes of the meetings include these discussions, as well as the remarks made on presenting each specimen; and, being read out in detail by the Secretary, on the next night of meeting, afford members an opportunity of correcting inaccuracies in the report.^b

Besides these great societies, New York abounds in smaller medical associations, numbering from one to two dozen members, who meet at each other's houses monthly in rotation; and, in some cases at least, terminate the proceedings by a social supper. These meetings tend to maintain a friendly feeling amongst the members of the profession, and are worthy of imitation amongst ourselves.

New York must be the Paradise of charlatans, if we can suppose them admitted to a Paradise of any kind. The daily and weekly newspapers teem with advertisements of quack medicines, warranted to cure every disease of mind and body. The number, and constant insertion of these advertisements—some of them of great length, and

^a In the list of corresponding fellows in 1862, Ireland is not represented; Scotland appears in the persons of Drs. Bennett and Simpson; England by Mr. Fergusson, Sir Henry Holland, and Dr. Roget; Prince Krom Luang Wangsa Tirat Sanit, of Siam, closes the list.

^b One instance occurred in which a member was reported as having injected a solution of "common salt" into the cavity of the abdomen, after the operation of ovariectomy (which terminated favourably). On hearing the minutes read he was able to restore the original "*chloride of soda*."

proportionably costly—prove their success for entrapping the unwary and the sanguine. Nor is this the worst evil of these advertisements. The indecency and suggestiveness of some of them are abominable; and, strange as it must appear, I have heard it publicly stated, that the religious journals are the worst offenders in this respect—and that many have felt it impossible to present these papers to the eyes of their families on this account. The enormous profits obtained by these advertisers from the sale of their medicines, their advice, or their assistance, enable them, it is to be supposed, to pay such rates as overcome the scruples of the proprietors of journals of weak circulation. The greatest of New York newspapers in circulation and revenue (though in little else), for whom that poor excuse cannot be pleaded, is positively unfit for the perusal of respectable women, and, it might almost be added, of respectable men either, owing to the obscenity of some of its advertisements.^a

There is one branch of practice, irregular and criminal, which, there in reason to fear is carried on to a very great extent in New York—not always, I regret to say, by irregular practitioners only. Criminal abortion—judging not only from the advertisements and the police reports, but also from information derived from other sources—is practised with the greatest frequency, and with almost perfect impunity. Not only the young woman, fearing to become an unwedded mother, but the matron otherwise respectable, who dreads the increase of trouble and expense which another child will bring, goes, with scarce a thought of secrecy or guilt, to the druggist for a dose of oil of savin, or to well-known and established practitioners in this particular line, to have their object effected, either by drug or instrument. Nor is this the case only with the “lower,” as they are called, or poorer ranks of society. The persons of whom I speak pursue this abominable calling among classes who have not the excuse of poverty, and individuals who cannot plead the dread of shame, in palliation for their desire to destroy their unborn offspring. The moral sense, even in many whom society calls “ladies,” does not revolt against the practice of artificial abortion, or miscarriage, as it does amongst ourselves.

We have before us a circular addressed “To Ladies Enceinte,” but distributed amongst gentlemen of the mercantile and professional classes. It recommends to ladies, “whose HEALTH will not

^a I must in fairness say, however, that these are not *all* medical or pseudo-medical.

warrant their incurring risks incident to maternity, or the culmination of which threatens an unpleasant denouement, . . . a new and highly important scientific discovery, recently made by a regularly educated physician and surgeon of extensive experience." This new process averts "impending evil;" if applied before quickening; is safe, infallible, and imitates nature exactly. But the following advertisements, cut at random—the three together—from the "Medical" column of the *New York Herald*, will fully illustrate my remarks. We have in them the thorough quack, the established "Female Physician and Professor of Midwifery," and the debased qualified practitioner—of whom the New York University and the London College of Surgeons have little reason to be proud:—

"ADVICE TO MARRIED OR SINGLE LADIES,

"Who require a safe and certain remedy from whatever cause; can rely upon the celebrated infallible French Female Monthly Pills, price one dollar a box, to restore the monthly sickness in forty-eight hours, if of short standing; but obstinate cases, of long standing, may require No. 2, which are four degrees stronger than No. 1, and can never fail; are safe and healthy. Price five dollars a box. Sold at —, or sent by mail, with full instructions, by addressing —. N.B.—Those who prefer a valuable, certain, and safe mode of treatment, without the use of medicine or instruments, can avail themselves of it by one interview, and be attended by one of their own sex."

"ADVICE TO MARRIED LADIES.

"Madame —, Female Physician and Professor of Midwifery, can be consulted, as usual, at —. But one interview will be necessary. No charge for advice. Her infallible medicines can also be obtained at —, or by mail. Price five dollars. N.B.—Ladies who desire board, and the best medical attendance during confinement, can be accommodated. Madame — deems it her duty to caution ladies against imitators of her advertisements, who not only rob them of their means, but their health."^a

"NO FEE TILL CURED.

"Dr. C., Member of the New York University (Medical College), and College of Surgeons, London, can be consulted

^a The readers of Professor Bedford's work on Obstetrics, will remember a curious case in which this lady figures. She has had "difficulties" with the law courts, once at least, with the result of spreading her fame and increasing her practice.

privately, on certain diseases, at his offices. A practice of thirty-four years (three of which has been in the hospitals of New York and London) enables him to treat with success nervous debility and all kindred affections. Consultation strictly confidential."

Homeopathy is thoroughly organized and thriving mightily in the United States, and especially in New York. In 1861, three hospitals, three colleges, three journals, about thirty societies, and 2,500 practitioners fought disease under the banner of Hahnemann in the United States. In New York, the homeopaths have obtained from the Legislature the power of conferring the degree of M.D.; and the *Fifth Annual Prospectus and Announcement for 1864-'65 of the New York Homeopathic Medical College* is before us. From this document we learn that the "institution has steadily increased in strength and is daily winning the respect and confidence of an enlightened public." Its "distinctive teaching is, of course, *similia similibus curantur*," but the student "will be familiarized with the philosophy of the entire history of medical science, with all its teachings and practical lessons as promulgated in our best standard works." The fortunate alumnus of this college thus combines the advantage of a careful medical education, with instruction "in the great principles of that advanced philosophy, which has, within the past few years, so rapidly changed and elevated the character of the medical profession."

The system of education is the same as that of the other medical colleges—the fees almost the same, but "invariably cash." Nothing in the rules seems to require the "preceptor" to be a homeopathic practitioner. Precautions are taken to let an unfortunate candidate for graduation "down easy." If the faculty think that he would be the better of another course of lectures, he may withdraw his thesis "without being considered rejected." And "in unsatisfactory cases, a candidate may avail himself of a second examination before the whole faculty, with their consent;" what under-graduates in our university used to call a "*post mortem* examination."

In the sessions 1863-'64 73 students matriculated; 35 from New York, of whom 12 belonged to the city; 12 from Canada West; 6 from Pennsylvania; 4 from Massachusetts; and 13 from other States; 1 from Germany and 1 from London. At the last Commencement, 26 gentlemen graduated—William Cullen Bryant, editor and poet, presiding as President of the Faculty of the College.

By a special Act the students are admitted to the wards of Bellevue Hospital, and others; and in all other respects this college is legally equal in position to any other in New York. Admission to the county medical societies has been obtained, by legal decision, after resistance. Several homeopathic dispensaries have been established in the city. Several "homeopathic physicians" enjoy most lucrative practices—one of them, indeed, is said, when in full practice, to have derived a larger income from his profession than *any* other practitioner in the city.^a So that, on the whole, New York must be the place to which good disciples of Hahnemann hope to go when they die.

From the flourishing condition of homeopathy it might be inferred that a larger proportion of regular physicians would be found willing to meet these "irregulars" in consultation in New York than in our large cities. And such is, we believe, the fact. For example, a Woman's Hospital, on a large scale, on Hahnemannian principles, is in contemplation; and the printed circulars announce that Dr. Carnochan (whom we have mentioned before) has accepted the position of Consulting Surgeon to the projected institution. In other respects, also, we have seen reason to believe the standard of professional etiquette is somewhat lower in New York than at this side of the Atlantic; or, to state it more accurately, the proportion of the members of the profession whose notions of etiquette and medical ethics are low, is somewhat greater there than here. As an illustration we may mention a question which we knew to be referred to the State Medical Society for determination, viz.:—Whether the general and established prohibition of advertising by medical men was intended to apply to advertisements in *professional* journals? There could be no uncertainty on the point in these countries.

I shall conclude my account of the state of our profession in New York with one remark. There is little exclusive specialism. I have heard a professor of surgery casually alluding in his lectures to an ordinary obstetric case, in which he had recently been engaged. The leading surgeons, *i.e.*, those whose experience and practice are principally surgical, do not hesitate to prescribe for purely medical cases. A few could be named, eminent members of the profession, who *do* restrict themselves to special branches of practice,

^a The gentleman alluded to (Dr. R.) has been very successful in his treatment; and is said to be the *purest* homeopathist in the city. It is remarkable, however, that he takes no part in medical education; and, we believe, does not meet his Hahnemannian brethren in consultation.

and with advantage both to their art and to the public. But these are, as yet, exceptional. I believe that the spread of "specialism," if not carried to excess, in a large city like New York would be beneficial.

I have left myself little room to describe the nature and operations of the *Sanitary Commission*. I must content myself with a few brief notes on this subject.

The Sanitary Commission was created by the Government of the United States in June, 1861. It meets at Washington quarterly; holding special sessions whenever necessary. In the intervals its affairs are administered by a General Secretary and a Standing Committee of five, meeting daily in New York. The chief object contemplated by the Commission at its first institution was the sanitary inspection of camps, ports, and hospitals. It was inevitable that when an immense army like that of the United States, in 1862 and the following years, was rapidly—almost suddenly—developed from a nucleolus of 12,000 men, a large proportion of the medical staff would enter upon military duties in utter and excusable ignorance of military hygiene. To obviate the evils of this state of things was the primary object of the Commission. But they have not confined themselves to this task. Their agents, paid and trained, accompany the corps and divisions of the army, supplying food, medicines, medical aid, and medical comforts in cases where Government stores are deficient, or the number of surgeons insufficient. All this work, it must be remembered, has been done with the sanction and approval of Government, and in concert with the military medical officers. In every trouble incident to the soldier's life he has found the Sanitary Commissions' agents his friends and advisers; but aid and advice have been bestowed in such a way as to increase rather than diminish his dependence on, and respect for, his military superior. Space will not permit me to dwell more in detail upon the incalculable benefits which this agency has been the means of securing to the national army. I must refer the reader to the publications of the Commission for full information upon this point, and for a series of papers of the greatest possible value to sanitary science and military hygiene.

The Sanitary Commission is and has been altogether dependent for its funds upon voluntary contributions. It has received aid from Government, as it has from railway and other transit companies, in the shape of occasional transport for its stores by land and water; but no public money. It has been kept well supplied with

funds by patriotic Americans in all parts of the world. The treasurer received in cash, between June, 1861, and the 7th December, 1863, 919,581 dollars, of which more than half came from California—unable, from its position, to take a more active part in the struggle.

It only remains to quote from the paper before me (No. 69), a passage showing the results of the combined efforts of the medical staff and the Commission:—

“It is from the nature of the case impossible accurately to estimate how many men have been saved from death or disease, and how much efficiency has been economised for the country by this preventive service; for though the results of the treatment of disease can be more or less accurately recorded, the result of measures for its prevention cannot be stated with any kind of certainty. The only attainable data on the per centage of disease among men to whom such preventive measures have been applied, and among those to whom they have not. Though inferences from a comparison of the two are not absolutely to be relied on (because we can never be quite sure that the conditions of any two cases have been precisely the same), a comparison of the mortality rates of our army with those of the British armies in the Crimea and during the Peninsular war will, nevertheless, throw some light on the question.

“The average annual loss of the whole British army during the Peninsular war was 165 men out of every thousand. Of these 113 died by disease or accident.

“From 1803 to 1812 the average annual death-rate of the whole British army ‘abroad’ was 80 per 1,000—71 by disease and accident, and 9 by wounds in action.

“In July, August, and September, 1854, the British army in the Crimea lost at the rate of 293 men out of every thousand per annum; 96 per cent. of this loss was from disease. During the next three months, October, November, and December, 1854, their loss was at the annual rate of 511 out of every thousand, seven-eighths of which loss was by disease. In January, 1855, it was *at the rate of 1,174 per 1,000 per annum*; 97 per cent. of this loss being due to disease. During the first three months of that year it was at the annual rate of 912 per 1,000; and 98 per cent. of the loss was due to disease.

“Up to May 18, 1862, our armies had lost at the rate of 53 per 1,000 per annum, and only 44 per cent. of that loss was by disease and accident.

“In estimating the value of these figures it must be remembered that the conditions under which our soldiers serve have been generally unfavourable. Their fields of operation includes large districts, quite as

insalubrious as any part of Spain, Portugal, or the Crimea. There has at all times (and especially during the first year of the war) been among them a large proportion of half-disciplined recruits, and of inexperienced officers, while the soldiers of Great Britain, in the Peninsula and the Crimea, were regulars under high discipline, and commanded by professional officers. The commissariat and the medical department of the British army, were parts of a system long established and matured. In May, 1862, ours were newly organized (for the purposes of this war), and not yet in perfect working order. The Peninsular and Crimean armies had, therefore, material advantages over our own. Yet we have lost far fewer men by disease. Even on Morriss Island, and in the pestilential swamps of the Lower Mississippi, our loss by disease has been smaller than that of any army about which we have authentic information. For this great fact—equivalent to the addition of hundreds of millions to our national resources—the nation can never be sufficiently thankful. No human agency could have insured it. Though the average intelligence and culture of our common soldiers are beyond those of any army ever yet put into the field, and though the medical staff and the sanitary commission have worked diligently in their respective spheres, a blessing so great, exceptional, and unhopd for, can be attributed to none but the Highest cause.”^a

ART. XV.—*Granular Swelling, or Benign Fungus of the Testicle in Infants.* By CHRISTOPHER FLEMING, M.D., M.R.I.A.; Surgeon, Richmond Hospital; Visiting Surgeon, Dr. Steevens' Hospital; Lecturer on Clinical Surgery; Member of the Court of Examiners, R.C.S., Ireland; Member of the Surgical Society of Paris, &c., &c.

AN infant, aged fourteen days, was brought to hospital with acute inflammation of the left testicle. No cause could be assigned for the attack. The health of the child, for its age, appeared to be perfect, and there was no trace of eruption or other disease of any kind. The mother was healthy, and had other children who were healthy, and, from her statement, it would appear that the attack in the child had commenced, some days previous to her application, with

^a “The last Report of the Secretary of War, as just published in the daily papers, states the number of patients in General Hospital, June 30, 1863, as 9·1 per cent., and in Field Hospital, 4·4 per cent., of the whole national forces; and that of this aggregate of 13·5 per cent. 11 were cases of sickness, and 2·5 of wounds, or other casualties.”

fulness and tenderness of the scrotum, and that those symptoms gradually advanced until they reached their present state. Now, the distinctive characters of "acute orchitis" on the left side existed in their most intense form. The scrotum, especially, was very much inflamed, and prominent in front of the testicle, which, with the epididymis, was so much enlarged as to equal the size of a large hen egg, and the chord was painful on pressure and much thickened. In the progress of the case there was considerable urinary irritation, at one time amounting to retention of urine, which required the introduction of a catheter. Treatment was adopted suited to the age of the child, but the mother could not remain in hospital. She attended from day to day for dispensary advice. Her poverty and condition, however, did not enable her to carry fully out the directions given her, when, at the end of a week, a slough presented itself on the thinnest and most prominent portion of the swelling of the scrotum. This slough was, in a short time, detached, when a granular growth protruded through the opening, increased to about the size of a large nut, and ultimately assumed all the characters of the ordinary "granular swelling of the testicle." This disappeared under treatment, and, when the child was last brought to hospital, the scrotum, the testicle, and the chord were gradually assuming their normal characters, and the ulcerated surface was contracting and cicatrizing. (A drawing of the appearances in the earlier and in the granular stage of this case has been taken by Mr. Connolly, and is now in the museum of the hospital.)

Diseases of the testicle, of the spermatic chord, and of the scrotum, are by no means of rare occurrence in the infant and child. Numerous instances pass under my observation. Limiting my present remarks, however, to the subject of "orchitis" at those periods of life, I would say, that seldom or ever a month passes over without my witnessing one or more of such class of case in its acute or chronic form, and involving one or both testicles. The above case is deserving of record, as well on account of the early age of the child, as of the rapid progress, and peculiar termination of the case itself. In child or in adult "acute orchitis" seldom terminates in even a disposition to "granular swelling"—it is rather the exception than the rule that suppuration takes place, and when so, the reparative processes are too quickly accomplished to admit of that morbid growth.

In the majority of instances of "chronic orchitis" an induration of the body of the testicle, and of the epididymis, as in the adult,

continues for a variable time, and gradually subsides under treatment—in others, again, this hardness is accompanied with effusion into the cavity of the tunica vaginalis, just as in the adult, constituting what has been termed hydroscrotocele, which also disappears under treatment—whilst, in a third class of cases, suppuration will equally supervene, will pass through stages familiar to all practical surgeons, but will not end in the “granular swelling of the testicle,” unless from great local neglect. Indeed, when we bear in mind the anatomical character of the disease, it is quite intelligible that much care is requisite in their local management. All undue pressure should be avoided, especially in their inflammatory stages, and thus the integrity of the delicate structure of the scrotum on the one hand, and that of the investments of the testicle on the other, will be protected. Destruction of a greater or less portion of the scrotum must otherwise ensue in the first instance, whilst in the second a fungus, merely *superficial*, may be converted into that *deep* form, in which the proper tissue of an important organ is necessarily involved.

Mr. Curling, in his admirable work on Diseases of the Testicle, alluding to this subject in connexion with that of “chronic orchitis,” has been kind enough to insert some remarks of mine respecting the “granular swelling of the testicle in the infant and the child,” a case of which he had not witnessed until shown to him by me on the occasion of one of his visits to Ireland. I beg to refer to those remarks, as well for the history of the symptoms detailed in the cases given, as for the treatment to be adopted, and will merely add that I am inclined to the opinion that those passing seizures of “orchitis,” especially in its acute form, which occur in the infant and child, and which are accompanied with urinary irritation, may be connected with more or less of derangement in the condition of the urine.

Minute particles of “red sand,” or at that age, more properly speaking, of “whitish sand,” or small calculous concretions passing along the ureter or the urethra, would account, not alone for the affection of the testicle, but for the abdominal griping pain, the nausea, and the vomiting so constantly attendant on these attacks, and this the more probably as morbid conditions of the urine, where uric acid is in excess, are by no means an unfrequent occurrence in child-life.

ART. XVI.—*A Case of Ileus accompanied by Fecal Vomiting Successfully Treated by Galvanism directly applied to the Mucous Surface of the Intestine.* By J. M. FINNY, L.R.C.S.I., M.B. Univ. Dub.

ROBERT FOX, labourer, was admitted, from Howth, into the medical wards of the Meath Hospital on 29th of June, 1864, under the care of Dr. Stokes.

The patient, who is a strong well-built man, about fifty years of age, states that he is of temperate habits, and that previous to his present attack of illness he had always enjoyed very good health, though he occasionally, of late, suffered from headache, of which, however, a dose of purgative medicine generally succeeded in freeing him; that on Saturday, June 25th, as he was suffering from headache, he took a dose of his accustomed medicine, namely, Epsom salts. This acted on his bowels once the following morning, but not to as full a degree as usual. In about half an hour after he experienced pain in the left side of his belly. Thinking it would soon leave him he did not mind it; it, however, rapidly became so severe as to compel him to send for medical aid. His attendant applied turpentine stupes to the abdomen, and gave him a draught consisting of turpentine and castor oil. As this failed to have any effect on his bowels, two turpentine injections were administered, to be followed, however, by the same want of success, as they were not even returned. The patient passed a sleepless and wretched night.

27th.—He vomited a large quantity of greenish-coloured fluid in the morning. The pain in the abdomen still continued, though a little less severe than on the day preceding. As his bowels were still unmoved the turpentine injections were repeated, and altogether, between the day and night, five enemas, consisting each of more than a pint of fluid, were thrown up the rectum. They also failed to produce any effect, not having been returned, nor having even given rise to a desire to go to stool.

28th.—After a miserable night hiccup set in, followed by frequent vomiting of the contents of the stomach; this continued throughout the day, with short intervals of repose. The pain, which before was in the left side, now changed its position, and was referred to the right side of the umbilicus; it became intensely acute, and was aggravated by the least exertion or pressure made on the abdomen.

He also experienced some difficulty and scalding in making water, which was of a dark colour, and emitted a strong odour. Five leeches were applied to the most painful part of the abdomen, which gave considerable relief; there was, however, no motion from the bowels. Failing to obtain any sleep during the night, and finding no alleviation of his serious symptoms, he was brought to hospital the following morning, June 29th.

As the patient had, during the last three days, obtained little, if any, sleep, and had been suffering severe pain, along with deranged gastric functions, as nothing remained on his stomach, it was no wonder that he presented the following symptoms on admission:—Face greatly flushed; eyes bright and sunken; expression extremely anxious; tongue coated and foul; extremities cold; pulse 86, very small; incessant and painful hiccup, which has lasted since early in the morning. The patient is in great pain, which he refers to the right side of the abdomen, midway between the umbilicus and short ribs. The belly is greatly swollen, hard, and tense, and immediately above the umbilicus it presents a deep sulcus, as if it were constricted by a tight band. To the left of the rectus abdominis muscle are two or three elevations, which have the appearance and feel of coils of intestines. They are partially dull on percussion and do not disappear on pressure. No gurgling can be felt in any part of the abdomen, and on applying the stethoscope nothing can be heard; all is silent and still. A careful examination for external strangulation was made by Mr. Collis, but nothing abnormal was discovered. As the patient had not made water for several hours, about a pint of high-coloured urine was drawn off by the catheter.

As four days had now elapsed since the commencement of this attack, and the patient's bowels had refused to act even to the smallest degree, notwithstanding the administration of seven enemas, besides purgative medicine by the mouth, it became a matter of difficulty to decide upon the best method of attaining the desired result—namely, the evacuation of the patient's bowels, and the relief of the abdominal distress and pain. Considering it possible either that the injections, thrown up the rectum before admission, had been inefficiently administered, or that there might be some impaction of feces, or other obstruction in the rectum, or lower portion of the colon, the long tube was directed to be passed, and a large terebinthinate enema to be injected. The tube was readily passed up the intestine to its full length, without, however, meeting any obstacle. After the administration of this enema, the patient

was placed in a warm hip bath, and while in it his belly was rubbed and kneaded. This proceeding was followed by some relief from pain, and by a cessation of the hiccup.

Ordered.—A grain of opium, in a pill, every third hour, and to have twelve ounces of wine and a pint of chicken broth, and the patient's belly to be frequently rubbed with warm oil throughout the day.

June 30th.—The patient slept a little during the night, and is somewhat easier this morning. The pain, which he describes to be of a gnawing character, with occasional sharp stings, is not so severe; the belly is still hard and tense, but is not so painful on pressure. During the night the patient vomited about two pints of dark fluid, devoid, however, of any offensive odour; his bowels have not been moved, and he has had no desire to go to stool; the hiccup, which yesterday was so distressing, is considerably abated, as it comes on now only after some exertion, such as change of posture.

Ordered.—A pill of calomel and opium every third hour; warm poultices to the abdomen, with an excess of oil; wine, ten ounces; chicken broth, a pint.

July 1st.—Had a very bad night; did not sleep, as the hiccup had again become very troublesome, and vomiting had set in, so that nothing stays on his stomach; he threw up during the night a large quantity of fluid, part of which, he says, was “stinking stuff” (by some mistake it was not kept for our inspection); he complains of great thirst; his tongue is dry and red; his lips parched; pulse regular, but weak—eighty; his bowels are still unmoved.

This being the sixth day since there was any motion from them; his belly seems more swollen; the pain he still refers to the same place; the markings or elevations observed on the day of his admission have disappeared; no localized hardness or fulness can be felt anywhere.

Ordered.—Pills of 30th to be discontinued, and to have a pill of extract belladonna every third hour; to continue poultices, wine, and chicken broth, and to have ice to allay the hiccup.

5 o'clock, P.M.—As there is no improvement, the bowels not having acted, he was ordered pills containing croton oil, strychnia, and extract of colocynth; one to be taken every second hour.

July 2nd.—The patient is somewhat easier, as he slept a little; his bowels were moved once last night after taking four of the croton oil pills; the stool is very scanty, not exceeding a pint, of a

black tawny colour; the abdomen is less swelled, and the constricted appearance presented on the day of his admission less marked.

Ordered to omit the pills containing croton oil, and to take those of extract of belladonna; a warm hip-bath at night, and two grains of powdered opium to be taken at bed-time, if necessary.

July 3rd.—Patient suffered a great deal yesterday from pain, which became towards evening greatly aggravated; he slept, however, after the opium, and does not complain so much this morning; the hiccup, which had left since the night before last, has again returned, and causes the patient great distress, which is only relieved by vomiting; the matters ejected are evidently fecal in character; there has been no motion from the bowels.

Galvanism was now applied to the external surface of the abdomen by placing the sponges attached to the poles of the electro-galvanic battery on either side of the belly; by fixing one sponge over the sigmoid flexure of the colon, and by moving the other in the course of the large intestine, the whole abdominal muscles were thrown into a good deal of spasm. The operation, which was attended by considerable suffering, lasted about seven minutes. It seemed, however, to fail in exciting any action of the intestines, as after its application the stethoscope could discover no internal motions or sounds. Nor has the patient the least desire to go to stool.

Ordered a grain of opium, in pill, three times a day; to omit extract of belladonna; and in the evening to have an enema of ordinary house medicine administered by means of the long tube.

July 4th.—The injection was followed by two fluid feculant stools; they are, however, scanty in quantity, and do not at all correspond, even to the amount of injected matters. The patient felt great relief afterwards. He is much more composed and cheerful this morning, and complains of but very slight pain. The belly is somewhat softer and flatter, and the constricted appearance seen above the umbilicus has quite gone. He has had no return of vomiting since his bowels were moved, and is very sanguine of a speedy recovery.

Ordered.—To repeat the opium pill; to have eight ounces of wine and chicken broth.

July 5th.—In the afternoon yesterday the patient became much worse, as the abdominal pain increased, and hiccup returned; and during the night a large quantity of fecal matters was ejected by the mouth. He is very low and desponding to-day, and refuses to take his stimulants; his pulse is weaker and more compressible than

yesterday; tongue and mouth dry; nothing remains on his stomach for any length of time; his bowels have not been moved since the night of the 3rd.

Ordered to repeat the pills of croton oil. Ordered, July 1st, brandy, four ounces; wine, six ounces; chicken broth.

July 6th.—Bowels have not been relieved by the pills. The patient spent a very miserable night, as copious fecal vomiting has continued, preceded by painful hiccup.

The patient is very restless, throwing his arms about, and frequently changing his position. He is covered by a clammy sweat; his face is drawn, and expressive of great anxiety; eyes sunken and heavy.

As all the treatment hitherto adopted has entirely failed in producing any decided and beneficial effect in evacuating the intestines, and as fecal matters have been ejected by the mouth almost continuously for more than three days, ever since the night of 2nd, with the intermission of about fifteen hours on the 4th; it is evident in such a case that unless some more speedy and efficacious treatment be employed, the patient cannot be expected to exist much longer.

Under these most serious circumstances the application of the galvanic stimulus to the mucous surface of the intestine, was proposed by Dr. Stokes as a *dernier ressort*. The manner in which it was applied is as follows:—

The patient was directed to place himself on his hands and knees, and while in this position, with his buttocks well raised and his head low, I passed up the long tube with the intention of administering a large enema of ordinary house medicine, previous to the application of the galvanism. The tube passed up readily as far as seven or eight inches, when it met some obstacle to its progress. On its withdrawal some feculent matter was observed at its end. It was again re-introduced, and by steady pressure and frequent injections, it slowly passed through some solid obstacle without at all conveying the idea of elasticity. Once through, it was readily passed up the intestine to its full length, and the remainder of the injection was thrown up. On removal of the syringe there was no escape of flatus or return of the injection. The exhausting syringe was now applied to the external extremity of the tube, but failed in causing any flow through it. Without withdrawing the tube the patient was placed on his side, and one sponge, connected with the negative pole of the electro-galvanic battery, being applied to the margin of the anus, the other sponge, in connexion with the

positive pole, was applied in a rapid manner over the whole external surface of the abdominal walls. After a few such applications there was a gush of fluid matter through the tube, which was then withdrawn, and the sponge which had hitherto been applied to the verge of the anus, was, along with portion of the metallic handle to which it was attached, passed up the rectum two or three inches, while the same proceeding as before was renewed with the other sponge. Each sudden application threw the whole abdominal muscles into the greatest spasm, and was immediately succeeded by a gush of fluid feces. Three large basinfuls were thus got rid of. The operation which had lasted about ten minutes, and which was attended with the most intense agony, so much so that the patient writhed under it to a painful degree, was now suspended, as great prostration of strength had ensued, the patient's pulse becoming almost imperceptible. He soon, however, rallied on the administration of brandy, and expressed himself greatly relieved. He then fell into a quiet sleep. In the afternoon he had two fluid stools, and eight more during the night entirely devoid of pain. No hard lumps were noticed to have been passed at any of these stools.

July 7th.—The patient is greatly improved in appearance; he has had an easy and painless night's rest, and feels very much better; he has had no return of the hiccup or vomiting, and complains of no pain in the abdomen even when pressed upon; his appetite has already improved, and he wishes for a chicken for dinner.

July 9th.—Since the 7th he has rapidly recovered, his bowels up to to-day having acted regularly, and of themselves. The patient is, however, weak, and occasionally listless and heavy, as if his nervous system had sustained a severe shock.

Ordered a few compound rhubarb pills; oil to be taken at night.

July 11th.—The patient left hospital to-day a little weak, but feeling otherwise perfectly well; his bowels are regular, and his stools natural.

On July 26th he again applied for admission, suffering from symptoms similar to those he presented before, but in a very less degree; his bowels having been confined for a few days, and complaining of some pain in the abdomen. He states that since he left hospital, on 11th, he has had two or three slight returns of abdominal pain, and that on one occasion his left leg swelled to a large size. These symptoms, however, left him after lying in bed for a few days. His present complaints are evidently augmented by fear, as

he is very nervous about himself, and dreads a repetition of his late treatment. This, however, was not required, as, after a terebinthinate enema, a course of gentle purgatives, such as castor oil, administered every other morning, was sufficient to keep his bowels regular, and to free him of all pain.

This treatment was continued for about twelve days, and his strength and general appearance being much improved, he left hospital on 18th of August. Since then he has had no return of these attacks, and has been able to resume his work as a labourer.

In this case, so fraught with practical interest, there are some few points which particularly deserve attention.

In the first place, as to the immediate cause of the attack—what it was? In this is involved a question more easily asked than answered; for when no confirmation by dissection is afforded the actual cause must ever be clouded in a certain amount of obscurity, which no fancied diagnosis lightened by the light of a far-seeing imagination, can ever thoroughly disperse.

The suddenness and severity of the attack following so soon after the dose of epsom salts having been taken would at first almost point to the possibility of its being a case of poisoning.

Then, again, the fact of the pain being for the most part fixed in one locality, which in the first instance was relieved by the topical abstraction of blood, would be almost suggestive of enteritis; caused, perhaps, by an introsuccption. Both these ideas are tenable for a time, but are not carried out by the after symptoms and progress of the case, as the pain both shifted its position, and though very intense the day preceding the application of galvanism, it had disappeared in four hours after the operation. To my own mind, taking into consideration the whole details of the case, is most strongly suggested the idea that the case was one of ileus, arising from a paralysed state of the muscular coat of portion of the great intestine. As all peristaltic action was absent the injections driven in by the force of the syringe were readily admitted past the affected portion of intestine; but were not again passed, from the loss of its normal muscularity. I should imagine that the violent peristaltic action produced by a large dose of sulphate of magnesia, and the irritation of the mucous coat which it sometimes gives rise to, may have been the primary cause of, or in some way connected with, this loss of vital power in the muscular covering of the colon.

The other point of interest is the happy success with which this

new mode of applying galvanism was crowned. It may safely be asserted that to its success the patient owes his life. This, then, is a matter of the deepest importance, as it furnishes the physician with a line of treatment worth trying in those cases where the ordinary treatment, such as was adopted in the early part of this case, has failed, as it often will. The acute suffering which it gives rise to, should, however, be borne in mind, as it is not every case which would be sufficiently strong to endure it without receiving future detriment.

As it has been but once tried in the Meath Hospital, and I believe was never before made use of in the United Kingdom, it would be presumption confidently to promise the same success in all future cases where it may be applied; but from the extreme severity of the symptoms in the case above detailed, and from the speedy and effectual relief it gave, it is not too much to hope that its application in future cases may be followed by equally happy results.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Lectures on Epilepsy, Pain, Paralysis, and certain other Disorders of the Nervous System, delivered at the Royal College of Physicians in London. By CHARLES BLAND RADCLIFFE, M.D., Fellow of the Royal College of Physicians of London, Physician to the Westminster Hospital, and to the National Hospital for the Paralysed and Epileptic, &c., &c. London: John Churchill and Sons, New Burlington-street. 1864. Pp. 340.

DR. CHARLES BLAND RADCLIFFE, who has succeeded Dr. Brown-Séquard as Physician to the National Hospital for the Paralysed and Epileptic, is well known to our readers as an individual who for some years past has given close attention to the study of the physiology and pathology of the nervous system. Upwards of twelve years ago he published a small work,^a in which his principal object was to show that it was necessary to revise the theory of muscular motion, and to consider muscular contraction as a physical process of a nature very different from that which physiologists had hitherto supposed it to be. Since that time his other published works, as well as his communications to the Royal Society, British Association, &c., show that he has kept pace with the advances of physiology in every particular which bears upon his favourite subject. When we consider how remarkable these advances have been, more especially in the department of electro-physiology—when we reflect upon the multitude of facts which have come to light since, in 1827, Nobili revived the long-dormant subject of animal electricity—when we contemplate the laborious and interesting researches of Matteucci, Du Bois-Reymond, Chauveau, and others of later years—and when we find a person thoroughly conversant with all these investigations, still after so many years adhering to his theory, and assuring us that the additional evidence supports his convictions as to the truth of the principle which he maintains,

^a *Philosophy of Vital Motion.* 8vo. London: Churchill. 1851.

it is high time for physiologists fully, fairly, and impartially to consider such a theory, however much at variance with the ordinarily accepted notions. We propose, therefore, in the present notice of the work before us, to give our readers an analysis at once as concise and clear as we can of Dr. Radcliffe's theory of muscular motion, and the grounds on which it is based, and also of his views regarding the physiology of sensation, while we shall reserve for a future occasion our observations on that portion of his lectures devoted to the pathology and treatment of nervous disorders.

The current theory of muscular motion attributes this remarkable phenomenon to a vital property peculiar to muscle called *contractility*. This property, which physiologists generally conceive to belong exclusively to the sarcois elements of muscular tissue, is regarded as a vital endowment capable of being called into action in obedience to appropriate stimuli: it is said to be exhibited under two varieties, *passive contraction* or *tonicity*, and *active contraction*; normally it is supposed to be brought into play by the stimulus of nervous influence, and the contraction of a muscle is regarded as evidence of vital excitement, primarily of the nerve, and secondarily of the muscle, the molecules of which are thus made to attract each other. This theory, if such a doctrine can be called a theory, is obviously unsatisfactory to the scientific mind; it means nothing else than that muscular contraction is a phenomenon of which no physical explanation has been offered, and the term "vital endowment" is introduced to shroud ignorance. Muscular contractility is one of the last strongholds of the vitalistic school; and whatever defects the theory of Dr. Radcliffe may have it at least strongly recommends itself to the scientific physiologist in this, that it is a highly ingenious, we would say a masterly, attempt to bind together in a common bond a number of phenomena met with in the living organism, and of those which fall within the domain of physical science.

According to the theory of Dr. Radcliffe, there is in living muscle during the condition of repose or inaction a state of polarity which produces relaxation; and contraction is nothing more than the necessary result of the muscle being set free from this, and left to the operation of the attractive force which is inherent in the constitution of the muscular molecules. This molecular change in the muscular elements he supposes to be brought about, not by stimuli whose action calls forth the vital property of contractility, but by an alteration in a definite and intelligible manner of the

electrical condition of nerve and muscle. Perhaps we can most easily make Dr. Radcliffe's view, as thus stated, comprehensible to our readers by referring to the molecular changes which iron undergoes under the influence of electricity; the analogy is indeed striking, and must be admitted to be favourable to Dr. Radcliffe's view, although it must be remembered that in such matters analogy is often a deceitful guide. Mr. Joule, of Manchester, now a good many years since, showed that a bar of iron suddenly, and without any change of volume, gains in length and loses in breadth when it is charged with magnetism, and that it as suddenly returns to its former dimensions when its magnetism is discharged. If a bar of iron be placed in the longitudinal axis of a coil of insulated copper wire, and if then through this coil a stream of electricity be passed, say from a Daniell's battery of half-a-dozen cells, as every one knows, the bar becomes magnetized; let its length now be accurately measured, and then let the contact with the battery be suddenly broken, and immediately the bar will be found to have shortened itself. While magnetized the bar is elongated; when demagnetized a molecular change instantaneously occurs, which is accompanied by contraction. The molecules of the iron bar which in the magnetized condition correspond to those of muscle in the state of relaxation; and when, so to speak, the influence of volition or any other cause, demagnetizes the muscle contraction is the result. This theory, of which we wish to give our readers a definite idea by the aid of an analogy not in all respects strictly parallel, is obviously quite at variance with the current doctrine of muscular contraction; let us, however, adopt it provisionally, and proceed to inquire how far it is confirmed or contradicted by the evidence of ascertained facts; how far it is in harmony with the laws which govern the electrical currents in muscle and nerve, as well as with the various phenomena associated with muscular contraction.

We confess, on the threshold, that we feel great difficulty in attempting to lay before our readers an analysis of the evidence brought forward by Dr. Radcliffe in support of his theory, in the first four lectures of the work before us. It is not that the author has not collected his evidence with care, and arranged it with judgment. This he has done admirably. But, unfortunately, the subject is one concerning which great ignorance prevails. Comparatively few persons have been able to watch the progress of animal electricity; and few, consequently, can estimate the value, or justly appreciate the importance, even in a practical point of

view, of the facts brought forward by Dr. Radeliffe in his book. Conscious of this difficulty, we shall be pardoned if, in our observations, we speak in a fashion which may appear too elementary to those who are conversant with the subject.

Animal electricity is that kind of electricity which exists in certain animal tissues; it is present in our own nerves and muscles during life, and for a time after death, gradually disappearing as *rigor mortis* becomes established. That variety of animal electricity which is capable of being stored up in particular organs and emitted as a shock (as in the *torpedo*, *gymnotus*, &c.) has been known from time immemorial. That which is inherent in the nerves and muscles, and the existence of which may be proved without the intervention of any metallic substance, was discovered by Galvani; the critical acuteness of Du Bois-Reymond has succeeded in deducing the laws which regulate it.

Galvani not only discovered the fundamental physiological experiment of galvanism (voltaic electricity), properly so called, but also that of the electricity inherent in the nerves and muscles. These discoveries were at the time hidden in a confusion of circumstances; it is only in these later years that the genius of Du Bois-Reymond has raised animal electricity to a position in scientific interest at least equal to that of any other branch of electrical science. The history, indeed, of the rise and progress of animal electricity is a history unsurpassed in interest by anything that we know in the records of physical science. We could with great satisfaction enter at some length into a subject so inviting, but must be content simply to remind our readers of the leading facts. In 1790, the quick eye of a lady, who happened to be present in her husband's laboratory in Bologna, noticed the spasmodic action of the limbs of a skinned frog which lay near an electrical machine which was in action. She drew her husband's attention to the astonishing fact. Galvani's restless mind and naïve desire for knowledge led him on from this starting point to the performance of various experiments, in which results arising, on the one hand, from what we now call galvanic electricity, and, on the other, from animal electricity, were, for him, inextricably blended together. In the discussions which followed, Volta finally triumphed. Galvani died in 1798. Volta discovered the pile in 1799; and although Humboldt, who about this time had been a guest of Volta, proved with great precision the existence of the muscular current, yet the supporters of animal electricity were silenced by the discovery of the pile for nearly

thirty years. Within this period the discoveries of Oersted, Schweigger of Halle, and Nobili imparted great delicacy to the instruments for detecting electrical currents; and, with their help, Matteucci, Du Bois-Reymond, Chauveau, and others, have investigated the subject of animal electricity, not only giving their true value to the classical experiments of Galvani and Humboldt, but adding a multitude of new facts.

In passing on to a consideration of the separate propositions upon which Dr. Radcliffe rests his theory, we would beg of our readers to bear in mind that artificial electricity (galvanism or magnetism) is merely used as a means of *stimulating* nerve and muscle, so as to show what changes are thereby brought about in the electrical condition of these tissues. It is the electrical condition of these tissues which, in relation to Dr. Radcliffe's theory, is of importance, the electricity inherent in the nerve and muscle structure—in fact, the animal electricity. Moreover, we would add, in order to make the matter more intelligible, that Dr. Radcliffe thinks, and we are of the same opinion, that his view of the physiology of muscular motion and sensation may be much simplified by supposing that the primary electrical condition of living muscle and nerve is one of statical, and not of current electricity. The “muscular current” and the “nerve current” he regards as only secondary phenomena.

In his first lecture, Dr. Radcliffe, after some introductory remarks, deals with the subject of what may be called animal electricity proper, that is, with the electrical phenomena presented by living muscle and nerve during the state of rest; in doing so, he lays down a series of propositions, most of which are capable of proof by direct experiment, and of the truth of which any person possessed of a delicate electrometer may satisfy himself; a few of these propositions are inferences which the author conceives to be fairly deducible from the facts before him.

These propositions are as follows:—

“1. During the state of inaction the natural state of living muscle and nerve is one in which the longitudinal and transverse surfaces of the fibres are in a state of electrical antagonism, the longitudinal surfaces being electrified positively, and the transverse surfaces negatively.

“2. During the state of inaction the longitudinal and transverse surfaces of the fibres of living muscle and nerve present different degrees of electric tension at different points, the longitudinal surface being most positive at the point most removed from the transverse surface, and the

transverse surface most negative at the point most removed from the longitudinal surface.

"3. Under certain circumstances the longitudinal and transverse surfaces of the fibres of living muscle and nerve have their electrical relations reversed, the longitudinal surface becoming negative, the transverse surface positive.

"4. During the state of inaction the fibre of living muscle and nerve presents unmistakable signs of current electricity if two points of dissimilar electricity or of dissimilar electric tension be included in the circuit of the galvanometer, but not so if the two points thus included are similar in electricity, or similar in electric tension.

"5. During the state of inaction living animal tissues are found to be capable of acting upon the gold-leaf of an electroscope, and of furnishing other signs which show that the natural electricity of these tissues is characterized by high tension.

"6. The natural electricity which is present in living muscle and nerve during the state of inaction is altogether absent in rigor mortis.

"7. There is reason to believe that the primary electrical condition of living muscle and nerve during the state of inaction is that of statical electricity, and that the 'muscular current' and the 'nerve current' which may pass from the muscle or nerve during the state of inaction are only secondary phenomena.

"8. It is possible that the elongated state of the fibres of living muscle may be due to the presence of the electricity which is inherent in them during the state of inaction.

"9. It is possible that the state of the muscular fibre in rigor mortis may be the necessary consequence of the extinction of the natural electricity of the fibre."

The last three propositions are inferences which, as we have already said, Dr. Radcliffe conceives to be deducible from the now ascertained facts. They are obviously important links in the chain of reasoning, and involve the conclusion that the natural electricity of living muscle and nerve, during inaction, is in a statical and not in a current condition. Moreover, from the foregoing propositions, Dr. Radcliffe ventures to assume that the electrical current which passes into the galvanometer from the nerve and muscle during these experiments is a secondary and not a primary phenomenon; and he finally concludes from these facts that the presence of the natural electricity of muscle *may* give rise to the state of muscular relaxation by keeping the muscular molecules in a state of electrical tension; and that rigor mortis is due to the

disappearance of this electricity, whereby the physical attraction of the muscular molecules is allowed to come into play.

In the early pages of his second lecture, Dr. Radcliffe speaks of the electrical phenomena presented by muscle and nerve during the state of action; he details experiments (some of which, of the most striking and interesting nature, may be repeated by any person with no more expensive instrument than the legs of some frogs) to show—first, that muscular contraction is accompanied by a discharge of electricity analogous to that of the torpedo; and, secondly, that the same is true for motor nerve during action; thirdly, he shows, by the aid of the galvanometer, that the electricity which, as we have already seen, is present in muscle during the state of rest, vanishes almost entirely during the state of action; and, fourthly, that this is also true as regards the electricity present in motor nerve during the quiescent state. From these premises our author feels justified in concluding that ordinary muscular contraction, like rigor mortis, *may* be dependent upon the absence of the natural electricity which we know to be present in living muscle during the state of rest and relaxation, and which direct experiment proves to disappear during the state of action.

Having shown, then, how far his theory is confirmed by the ascertained and admitted facts of electro-physiology, Dr. Radcliffe next proceeds to examine how far it is in harmony with various phenomena associated with muscular contraction, which, to say the least, are unsatisfactorily accounted for by the current doctrine on this subject. In order to do this, he enters into a careful investigation of the following topics:—

1st. The part which animal electricity has to play in the process of muscular motion.

2nd. The part which the blood has to play in this process.

3rd. The part played by “nervous influence” in bringing about muscular action.

4th. The part which certain other agents—as light, heat, cold—play in this process.

In his concluding lecture of that portion of the book which at present occupies us, Dr. Radcliffe deals with the subject of the physiology of rythmical muscular motion, as met with in the cardiac movements, those of the intestines, and of respiration.

In the discussion of each and every one of these topics Dr. Radcliffe shows a profound knowledge of the physiology of the subject of which he speaks. Each proposition is simply stated, and

then fairly sifted, with a degree of brevity, precision, and, above all, a freedom from dogmatism which it is rare to meet with, especially where views are set forth with the enthusiasm of originality. To give a just idea of Dr. Radcliffe's line of argument, or, rather, to lay before the reader the series of facts on which his arguments are based, would be to reproduce his lectures: there is not a superfluous word. It must for our purpose suffice to give the primary deductions drawn from the evidence advanced. These appear to be:—

“That there are unmistakable signs of natural electricity in living nerve and muscle during the state of rest.

“That the natural electricity which is present in living nerve and muscle during the state of rest is in the statical, and not in the current, condition.

“That living muscle, when left to itself, is kept in the state of relaxation by the statical action of its natural electricity.

“That an electrical discharge analagous to that of the torpedo is developed in the neighbourhood of nerve or muscle during the state of action.

“That a nerve or muscle is for the moment deprived of its natural electricity whenever it is thrown into the state of action by the shock of a coil-machine, or by any other artificial means.

“That the action of a motor nerve in producing muscular contraction is one which may deprive the muscle of its natural electricity; for it may be supposed that the muscular fibres lie near enough to the nerve-fibres to be within the range of the electrical discharge (analagous to that of the torpedo) which is developed in the neighbourhood of the nerve during the time of nervous action, and that the muscular fibres are deprived of their natural electricity by the shock of this discharge, in precisely the same way as that in which they are so deprived by the shock of the current of the coil-machine.

“That muscle deprived of its natural electricity passes into the state of contraction, because muscle so deprived is left free to yield to the action of the attractive force which is inherent in the physical constitution of the muscular molecules.

“That ordinary muscular contraction is *not* continuous, because the electrical condition of living muscle is such that immediately after the state of contraction is brought about by the loss of electricity, the opposite state of relaxation is restored by the recovery of electricity.

“That muscle and nerve have ceased to exhibit any sign of natural electricity before the occurrence of rigor mortis.

“That the contraction of rigor mortis is continuous, because the attractive force which is inherent in the physical constitution of the muscular molecules is then no longer antagonized by the natural electricity of the muscles and nerves.

“That ordinary muscular contraction and rigor mortis are only different aspects of the same process.

“That there is no ground for believing that a vital property of irritability has to do with the action of a motor nerve, or that a vital property of irritability or tonicity is concerned in bringing muscle into the state of contraction.”

Dr. Radcliffe deals very briefly with the physiology of sensation; such a subject obviously cannot be treated experimentally to anything like so full an extent as the kindred topic; we must look to pure pathology rather to elucidate the perplexing problems connected with sensation and pain.

Dr. Radcliffe, however, shows by experiment, and a very striking experiment it is, that in the case of a sentient nerve, as in the case of a motor nerve, the nerve loses electricity in passing from what must be considered its state of rest into its state of action. Secondly, he adduces an equally remarkable experiment of Matteucci's to show that the change in a sensory nerve when sensation is produced by the action of voltaic electricity and the change in a motor nerve when muscular contraction is produced by the same means are exact equivalents. From these facts he concludes that there is reason to believe that no essential difference exists between the action which issues in sensation and the action which issues in muscular contraction; in fact, that the production of sensation and the production of muscular contraction differ only in this—that the electrical discharge analogous to that of the torpedo, which is developed in and near the nerve in the state of nervous action, happens to tell upon sensorial ganglionic cells in the one case and upon muscular fibres in the other.

We are, indeed, very well aware what a meagre and imperfect sketch we have here given of the physiological portion of Dr. Radcliffe's lectures. Our principal object has been, however, to induce those of our readers who feel an interest in this important subject, to study the work for themselves; we assure them that a careful perusal of it will amply repay them. Although the subject is one not familiar to many, and one which requires more than a superficial glance, yet everything has been done by the author that could be done to make it readily comprehensible. The book is well brought out, and illustrated by woodcuts, which serve very much to simplify experimental details. For ourselves, we can say, with truth, that we have read it with great pleasure and great profit.

Notes on Hospitals. By FLORENCE NIGHTINGALE. Third Edition, Enlarged, and, for the most part, Re-written. London: Longman, Green, Longman, Roberts, and Green. 1863.

It is not our purpose in the following remarks to add even one tributary stream to the ever-swelling torrent of public applause which follows the name of Florence Nightingale. Notwithstanding a nation's fears, Providence has graciously spared her most useful life; and long after her truly honourable career has terminated, shall men and women yet unborn revere in her character the true disciple of our GREAT EXEMPLAR "who went about doing good."

Nor is it our intention to analyze this book so as to set a synopsis of its contents before our readers. Many of them have doubtless read it, and are quite familiar with its teachings. We wish to select for consideration certain portions of a remarkable work, the very title of which commends itself not only to medical officers of hospitals everywhere, but to the thousands—ay, millions of the general public who feel an interest in the matter.

If we may compare Miss Nightingale's treatise to a sermon, and herself to a preacher, we shall begin by stating her text to be—a hospital "should do the sick no harm." She considers this aphorism necessary, "because the actual mortality *in* hospitals, especially in those of large crowded cities, is very much higher than any calculation founded on the mortality of the same class of diseases among patients treated *out of* hospital would lead us to expect." As in her *Notes on Nursing*, so in the present treatise, the two chief heads of discourse are fresh air and cleanliness under every imaginable form. These are found in the various chapters into which the book is divided; and whether we read of the "Sanitary Condition of Hospitals," of the "Defects in existing Hospital Plans and Construction," of the "Principles of Hospital Construction," of "Improved Hospital Plans," of "Convalescent Hospitals," of "Children's Hospitals," of "Indian Military Hospitals," of "Hospitals for Soldiers' Wives," of "Hospital Statistics," or of that most important APPENDIX "On Different Systems of Hospital Nursing," we feel equally convinced that Miss Nightingale esteems fresh air more highly than gold, and prizes cleanliness as the very next thing to Godliness.

From statistics which we need not reproduce, and the truth of which cannot be denied, we find "that the most unhealthy hospitals

are those situated within the vast circuit of the metropolis; that the next lower death rate takes place in hospitals in densely populated, large manufacturing, and commercial towns, and that by far the most healthy hospitals are those of the smaller country towns."

The suggestion immediately occurs—is a hospital of any use? This indeed has been gravely doubted, and who will say such doubts are groundless? For the present we affirm the question, and say they are of untold advantage; while it is too true that as the proper function of a hospital is to cure and not to kill, some scarcely answer the desired end by reporting an annual mortality of one death for every bed occupied.

In reply to the question "What, then, are those defects to which such results are to be attributed?" Miss Nightingale observes:—"I should state, at once, that to original defects in the sites and plans of hospitals, and to deficient ventilation and overcrowding accompanying such defects, is to be attributed a large proportion of the evil I have mentioned."

In discussing the idea that the unhealthy condition of some hospitals is due to "infection" or "contagion" Miss Nightingale maintains the *preventibility* of infection, and therefore the preventibility of many deaths from zymotic diseases—which we often lament in the cases of medical men, hospital nurses, and medical students. Instancing the contagion supposed to inhere particularly in *feathers* she remarks, "that, according to quarantine laws, a live goose may be safely introduced from a plague country; but if it happen to be eaten on the voyage its feathers cannot be admitted without danger to the entire community." Hence she exhibits the endless absurdities connected with this doctrine, and using the term "contagion," to express communication of disease from person to person by *contact*, she affirms "there is no proof, such as would be admitted in any scientific inquiry, that there is any such thing as 'contagion.'" She also expresses her belief that "there is no such thing as *inevitable* 'infection.'"

We cannot pretend to decide this question; for the truth is there is much to be said on both sides. In the last number of this Journal, Professor O'Connor, of Queen's College, Cork, argued with ability on Miss Nightingale's side of it; and no person who has read his essay can deny the fairness of his argument. He viewed it *practically*; and were it not for the importance of the results of believing one side or other, a medical man might well remain, on this subject at least, a professional infidel. Miss Nightingale comes

to the point at once, and argues that as there is no such thing as contagion, and as infection is not inevitable, it can be prevented by securing free circulation of fresh air and cleanliness, and by avoiding overcrowding in hospital wards. In keeping with this idea of free dilution of infected air she would not tolerate wards for "infectious" diseases, as she believes these may be most advantageously treated in the general wards among other sick.

This is a *vital* question, and one which can be decided only by very extended and frequent observations. As our readers are well aware, the principle has been advocated by Professors Christison and Hughes Bennett, and was put in practice in the Edinburgh Infirmary several years ago. According to Dr. Murchison (*Treatise on Continued Fevers*, pp. 609, &c.) it was not found to answer; and on referring to our memoranda of a visit to that infirmary in 1863, we find the following:—"Particularly noted the *fever wards* which had very high roofs, were well ventilated, and had thermometers hanging against the walls—the temperature at 65° Fahr. Scarlatina cases are put in the fever wards, but cases of small-pox are kept separate."^a The plan of distributing fever patients in the general wards, also, formerly prevailed in the infirmaries of Glasgow and Manchester (Murchison); but on a visit to both places last year we found the contrary practice in operation; as also in the Sick Children's Hospital in Edinburgh, where the fever wards are not only isolated, but are approached by a separate staircase. Dr. Murchison's conclusions are weighty and carry conviction to many physicians; they are:—

"1. Cases of pythogenic fever may be distributed in the wards of a general hospital with impunity.

"2. It is doubtful if cases of typhus ought ever to be admitted into a ward with other patients; even in no larger a proportion than one in six, there is danger of the disease spreading.

"3. Fever hospitals are absolutely necessary in all large towns liable to epidemics of typhus, and they ought to be provided with the means of rapid extension, in the event of an epidemic breaking out.

"4. There is no evidence that in a well ventilated fever hospital the mortality from continued fevers is greater than in a general hospital.

"5. In proportion to the number of cases of typhus treated, the

^a In a recent visit (October, 1864) we find a partial exception to this statement, viz., in the "clinical" wards, where a small per centage of "infectious" cases is distributed for the purposes of clinical teaching. In Glasgow it is otherwise, as stated in the text.

danger of the disease spreading is much less in the plan of isolation than in that of mixing.

“6. Cases of pythogenic fever, scarlatina, and typhus ought not to be mixed in a fever hospital.”

Now while these conclusions are diametrically opposed to the dogma of Miss Nightingale, yet they are not really opposed to the principle of *dilution* on which her dogma is based; Dr. Murchison's conclusion, No. 4, meets the case, and is founded on confessedly strong facts.

In the *Medical Times and Gazette* for September 10, 1864, we find an account of the experience derived from the recently established New York Fever Hospital. It seems that heretofore fever wards had existed in Bellevue Hospital, and the result was believed to have been decidedly injurious. At any rate we are now told:—“If any further evidence were needed of the intense contagiousness of typhus than that furnished by the past history of fever in Bellevue, we have it in the records of the fever hospital during its short existence. The fever cases are at present placed in tents on Blackwell's Island. On entering the hospital the patient is bathed, and supplied with a clean hospital shirt, his own clothing being removed and washed. The tents are near the water's edge, the sides are raised, and the sweep of fresh air is constant and generally very strong over the floor and beds. No perceptible odour is ever noticed in or around the tents, nor does there seem to be the slightest difference between the internal and the external air. And yet no less than six unprotected attendants, who did not even sleep in the tents, have contracted the disease within this short (two months) period.” The lessons deduced from this account are:—1. Typhus is contagious. 2. It should be isolated. 3. None but protected persons should ever be employed to attend fever cases; and 4. Open air treatment is the best. This last conclusion was arrived at because in the fever wards of the Bellevue Hospital the mortality in typhus was 11 per cent., while at the Fever Hospital it was only 6·1 per cent.

According to Dr. Murchison the mortality in Britain is “one in five attacked;” while it certainly is not so much in this country. From the Cork Fever Hospital reports we find that the mortality in typhus and typhoid in 1862 was “less than 9 per cent;” and in 1863, when, during an epidemic, the inmates numbered 1,685, and “the majority of patients were found to labour under the worst forms of typhus,” the mortality was only 5·50 per cent. How much

of this is due to plenty of light and pure air we know not, but as we have had opportunities of ascertaining that plenty of both were in use in that institution, its friends may reasonably claim the advantage of adhering to Miss Nightingale's doctrines to some extent.

With regard to contagion in the New York Fever Hospital while plenty of air was had, perhaps Miss Nightingale would find the case not exactly so to her acute perception. There is scarcely any *fact* about which we find such diverse testimonies; witness the altercations between railway passengers as to shutting or opening a carriage window, and domestic differences of a like nature between what quaint Dr. Watts calls "children of one family."

While we certainly think Dr. Murchison's conclusions are warranted by an experience to which Miss Nightingale lays no claim, we cannot agree to No. 6—"cases of pythogenic fever, scarlatina, and typhus ought not to be mixed in a fever hospital." Our own experience, and we have had some in a fever hospital, goes far to prove the contrary so far as Ireland is concerned. We have seen, for example, cases of diphtheria, of bad erysipelas of head and face, of scarlatina maligna, of typhus, of typhoid, and of acute bronchitis, all treated successfully in one ward; and to a greater or less extent this must occasionally be the case when patients are sent into hospital as having "fever," which, of course, they have; but how much more they may have in reserve dispensary doctors generally say not.

Many of us have been agreeably surprised at the neatness and home-like care for the sick which greets them on their first visit to a continental hospital; while in this country we sadly want more of this sort of thing. In the Edinburgh Infirmary the visitor will see the walls covered with appropriate, not with controversial, texts of Holy Scripture, with pictures of events in Sacred History, and of notable men of the day. In the Sick Children's Hospital in the same city, he will find the little inmates amused with toys, which form part of the standing stock of the establishment; and in Glasgow Infirmary he will see, and *smell*, bouquets of flowers on the tables or chimney-pieces of the wards, while the solemn and orderly arrangement of its dead-house at once befits mortality and immortality, and whispers in stillness—"Memento mori." Many will perhaps not consider all these things suitable for all our hospitals; some of them, however, will unquestionably aid the medical attendant in restoring health; and, so far as flowers are concerned,

they have the additional advantage of purifying the air by giving out oxygen in the day time, and absorbing carbonic acid. At night, when the reverse process goes on, of course they should be removed.

Miss Nightingale lays down the doctrine that “unless the air *within* the ward be kept as fresh as it is *without*, the patients had better be away.” In the general sense this is true; but except in savage life, or in great privation, we can scarcely expect to see this idea realized. What she means we shall give in her own words:—“In the wooden hospital huts before Sebastopol, with their pervious walls and open ridge ventilators, in which the patients sometimes said that they ‘would get less snow if they were outside,’ such a thing as ‘catching cold’ was never heard of. The patients were well covered with blankets, and were all the better for the cold air.”

We think we can beat this by instancing the conduct of a man who did much to ruin our profession—that is, to make it needless. There is in possession of our College of Physicians a picture of Dr. Smith, an Irish historian of celebrity. In his *History of Cork*, second edition, Dublin, 1774, we read:—“Dr. Lyne, an Irish physician, who died some years ago of the small-pox, aged eighty-five, lived at a place called Arloom, in the half barony of Bere, in this county. It was remarkable, that for fifty years together nobody died out of his house, though he always had a numerous family. His house was built in an odd manner, every window had another opposite to it, none of which he ever suffered either to be shut or glazed, but were continually kept open, without any defence against the weather. The room the doctor lay in had four windows, two open on each side his bed. Upon his death, his son glazed all the windows, since which time there were several buried out of the house.”

While we are on the subject of air and ventilation, a reference to Cork reminds us of the New County Infirmary lately opened in that city. By reference to the plans kindly furnished by the courtesy of Dr. W. C. Townsend, its senior physician;^a we perceive the floors are two—ground and first; the “administration” is separate from the wards. These, four in number, are each 140 feet long, 20 wide, and 12 high, and are constructed for 108 patients. Each patient on the ground floor has 1,200 cubic feet of air; while

^a These plans were drawn by Mr. Fitton clinical clerk to the hospital.

those up-stairs have 1,400 feet. It may be said to consist "of two pavilions in line," the administration being in the centre. The fresh air is plainly sufficient here, as Miss Nightingale admits, that for each patient from 1,000 to 1,500 cubic feet is sufficient; the latter quantity being the *ultima thule*; while the principles laid down in her *Notes* appear to have been largely acted on in the construction of this hospital.

On the subject of "Defective Hospital Laundries," as fully treated by Miss Nightingale, we cannot dilate further than to strongly recommend a most complete washing machine which we have seen in operation in a charitable institution across the Channel. It was invented by Mr. Cranston, proprietor of the Waverley Hotel, Edinburgh, who has, we believe, a patent for it.

We cannot pause to discuss "Principles of Hospital Construction," "Improved Hospital Plans," or "Convalescent Hospitals," which last people agree ought to be erected somehow. On "Children's Hospitals" Miss Nightingale says some strong words. She prefers special hospitals for children, but protests against children's wards in a general hospital, because then some of their bad habits are likely to be overlooked; and while this defect may be obviated by their being mixed with the adults; yet, in the latter case, some bad habits may be acquired by children which they would otherwise escape; and some knowledge might be gained of which they are better ignorant. They also lose the special provisions for exercise and recreation which a children's hospital would of course supply.

We pass over the "Indian Military Hospitals," already rendered infamous by this book; and without touching on "Hospital Statistics," or "Hospitals for Soldier's Wives," we shall conclude with some observations on the Appendix "On Different Systems of Hospital Nursing."

With this subject Miss Nightingale is more conversant than any other woman in the United Kingdom; and she thus writes:—

"The methods of nursing the sick adopted in the public hospitals of Europe may be distinguished under five classes:—

"1. Where the nurses belong to a religious order, and are under their own spiritual heads; the hospital being administered by a separate and secular governing body.

"*Examples.*—The Hospitals of Paris, of King's College Hospital, London.

"2. Where the nurses are of a religious order, the head of which administers both order and hospital.

"*Examples.*—The Protestant institutions of Bethanien at Berlin, Kaiserwerth on the Rhine, many Roman Catholic institutions at Rome, and all over Europe, also Anglican sisterhoods at home.

"3. Where the nurses are secular under their own head; the hospital having its own separate and secular government.

"*Example.*—The hospitals of London.

"4. Where the nurses are secular, and under the same secular authority as that by which the hospital where they nurse is governed.

"*Examples.*—The great general hospital at Vienna, the Charité at Berlin.

"5. Where the nurses are all men and seculars, and under the same secular male authority as the hospital.

"*Example.*—The military hospitals of Germany, and, till a recent period, of England, France, and Russia."

Miss Nightingale duly discusses the merits and demerits of all these plans; and, observing that she deals only with systems of nursing as *systems*, thus sums up:—

"Case 1. There is a higher average care of the sick, and a higher universal sense of morality among hospital sisters, Protestant and Roman Catholic, provided the hospital authority be a secular one. Case 2. There is a lower average care of the sick, although an equally high morality, among hospital nuns, Protestant and Roman Catholic, if the hospital authority be not a secular one. Case 3. There is a far greater average care of the sick, although a lower morality, among nurses under a secular head, the authority of the hospital being a secular and separate one, than in Case 2; and there is a somewhat higher average care of the sick in Case 4 than in Case 2, and no morality at all, but an awful destruction of both life and soul among nurses, where both nurses and hospital are under the same secular (male) authority. Case 5. There is no care of the sick and no morality, nor even discipline, in hospitals where the nurses are men, and where both nurses and hospital are under the same secular (male) authority."

She looks on this last as the worst state of things, and Case 2 as the next worst, because the idea of the "religious order" is rather to prepare the sick for death—of the secular to restore them to life. Union of the two she thinks best.

A *Discourse on Hospitals Past and Present*, delivered by Dr. S. Martyn, at the Bristol Institution, March 17, 1862, is noticed in a

leader on "Hospital Nursing," in the *Lancet* of September 10, 1864. Bearing in mind the two plans followed—sisterhoods and technical training of nurses—we find it stated that the Kaiserwerth plan (Case 2), does well. There are twenty-six institutions in England, more or less analogous to the Kaiserwerth type, *e. g.*, "S. John's House," in London, which has a master in holy orders, a lady superintendent, and two physicians, manages the nursing in King's College Hospital. The hospital pays the "House" £1,000 a-year, and is provided with all the female domestics, twenty-six nurses, a number of probationers in training, and six lady superintendents. This system has lasted six years, and has worked well. The committee do not interfere with the selection or discharge of nurses. The latter have a common sitting-room, offices for washing, &c. Each "sister" has a bed-room, while the nurses sleep in associated dormitories, with beds separated by wooden partitions, and a curtain at the end of each. All dine in the basement; the sisters sitting at a cross table.

In June, 1860, University College Hospital was entrusted to "All Saint's Home," and the report is highly favourable to the nurses. Those off duty have a common room and a library; their bed-rooms are associated, and on the upper floor.

St. Thomas' Hospital is nursed by Miss Nightingale's training institution, which trains women, and then gets them places. Probationers are not taken for less than a-year, and the cost of their maintenance (£10, and 10s. 6d. per week for board) is defrayed out of the Nightingale fund, the committee of which have arranged with S. John's House to train annually, at King's College Hospital, midwifery nurses to attend the poor of country parishes, under surgical and clerical direction.

Miss Nightingale's censure of the nursing system, still too common in our military hospitals, we know by experience to be deserved; and we can also, from experience, concur in her censure of the system, still the rule with us, of employing hireling nurses of more or less ignorance, who have often in the hour of nature's extremity sipped the "aqua vitæ" of the fever patient, and who are seldom suspected of being actuated by moral principle, or by a sense of duty.

From what we know of the Irish hospitals which are administered by religious orders, we are inclined to differ from Miss Nightingale's estimate of the system. In Ireland these sisterhoods are as yet confined to the Roman Catholic Church; and though as such we are

not ourselves personally prejudiced in their favour, we cannot but express our earnest wish that those who view these nursing systems unfavourably would do them the justice of looking closely into them, and seeing how far they act on the only principle on which Miss Nightingale very properly thinks they can safely stand—that of organizations best calculated to do *work*.

We say advisedly, it is greatly to be regretted that in the numerous hospitals of this city, and of our large provincial towns, no Protestant sisterhood is employed as in England, at Kaiserwerth,^a and elsewhere. There is ample room for trying the several systems side by side; and while it will be admitted that the best form of such an organization is not an unmixed good, it is equally true that the worst is far removed from an unmixed evil.

By the courtesy of the lady superintendent, we have visited the only Protestant institution in Ireland founded on the Kaiserwerth model. “S. Stephen’s Orphanage,” in St. Stephen’s-green, in this city, or, as we should correctly call the entire institution,^b “S. Stephen’s Deaconess’ Home,” is eminently calculated to engage in this Christian work of doing good, and to prove the superiority of organized strength and method, over ill-directed and scattered personal effort.

It is high time that ignorant, though well-meant prejudice should yield to sober experience; and that we should gladly offer facilities to every organization which tends to enlarge the usefulness of our profession, and to make it more truly the healing art.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. XLVI. 1863. 8vo, pp. 225.

THE present volume contains but twenty papers, and these are, with some exceptions, less important than usual.

^a For a full account of this astonishing institution, see *Good Words* for February and March, 1861; also, *A Residence of Nine Months in the Deaconesses Institutions of Kaiserwerth, Strasburg, and Mülhausen*, by Miss Mary Myles. Dublin: Geo, Herbert. 1862.

^b Beside the nursing of the sick, not yet in operation, the objects embraced by this institution, and now in active work, are the care and training of poor female orphans, the education of young ladies, and the parochial visiting of the sick and poor.

I.—*Account of a Recent Remarkable Case of Scrotal Elephantiasis, in which the Tumour was Removed.* By JOHN WIBLIN, F.R.C.S., Medical Superintendent of Quarantine, Southampton.

THE patient in this case was an Englishman, forty years of age, He had a double rupture; and when he came under notice, the disease, which had commenced in 1848, three months after contracting syphilis, had produced such an abnormal growth of the prepuce and scrotum, that they were found to weigh more than fifty pounds, and had acquired the following dimensions:—

“*Preputial Growth.*—Length, 16 inches; circumference, 13 inches.

“*Scrotal Growth.*—Vertical circumference from the symphysis pubis, following the raphé of the scrotum to within 2 inches of the anus, 3 feet 6 inches; lateral circumference, 3 feet 4 inches.”

The tumour was removed by Mr. Wiblin, by an operation occupying about twenty-one minutes, and chiefly remarkable for the small amount of hemorrhage that occurred. This immunity from bleeding was no doubt partly due to the use of a clamp, suggested and applied by Mr. Spencer Wells, and to the efficiency of the gentlemen who assisted at the operation; but mainly due to the adoption of a plan first suggested by Mr. O’Ferrall, of this city, whose name, however, Mr. Wiblin does not mention. This plan, which has been used by many surgeons with very beneficial results, consists in elevating the tumour above the level of the body, and keeping it so for some hours before the operation, so as to empty its veins as completely as possible. In removing the tumour the testicle of one side was wounded before it was recognized, and had to be removed. The hernial sac of the same side was opened also, but its contents were not injured; they were, however, in an unhealthy state, and became gangrenous, and the patient died on the sixth day. The paper concludes with a tabulated summary of the chief recorded instances of the affection, and a plate exhibiting the steps of the operation.

II.—*Supplement to a Paper entitled an Analysis of 162 Cases of Ovariectomy which have Occurred in Great Britain, published in Vol. XXXIV. of the Medico-Chirurgical Transactions.* By ROBERT LEE, M.D.

This is only a brief notice of a paper presented to the society by Dr. Robert Lee, which the Council would not allow to be read.

Dr. Lee asserts that as all the cases of recovery from ovariectomy have been published, and many of those which have terminated fatally have remained unpublished, no practical conclusions can be drawn from what are called the statistics of ovariectomy, and which are, he says, only calculated to mislead. Of what operation, we should like to know, have the statistics been more fully and fairly published than have those of ovariectomy.

III.—*Case of Poisoning by Oil of Wormwood (Artemesia Absinthium).* By W. SMITH.

IV.—*A Contribution to the Natural History of Hereditary Transmission.* By H. DOBELL, M.D.

An account of a peculiar malformation of the hands affecting some members of five generations.

V.—*Case of a Woman with Three Hands, Illustrated by Analogous Malformations in the Lower Animals.* By J. J. MURRAY, F.R.C.S.E.

VI.—*On the History and Progress of Ovariectomy in Great Britain; with Observations Founded on Personal Experience of the Operation in Fifty Cases.* By T. SPENCER WELLS, F.R.C.S., &c.

This paper was written in November, 1862, and we have reason to believe Mr. Wells' present experience is derived from more than double the number of cases here stated. The paper opens with a history of the operation, showing that it was first suggested by William Hunter, then advocated by John Bell, and performed for the first time by E. M'Dowell, a pupil of the last-named teacher, who transmitted a report of his case to his master. Bell died before it reached him, but it fell into the hands of Lizars, who published it seven years afterwards in the 32nd vol. of the *Edinburgh Medical and Surgical Journal*. Mr. Wells traces in brief terms the further history of the operation, showing that it languished till he took it up in 1857.

The cases on which the present paper is founded are divided by the author into three series, viz:—

I. In which ovariectomy was completed. 50 cases—33 recoveries; 17 deaths.

II. In which ovariectomy was commenced, but not completed. 3 cases—no deaths from the operation.

III. In which an exploratory incision was made in aid of diagnosis. 3 cases—1 death.

The details of these cases are summarized in the tables Mr. Wells gives, and he concludes with the following observations:—

“I shall, therefore, conclude by referring to the condition of the patients who have recovered as a proof that when they escape the immediate dangers of the operation, their health becomes remarkably good.

“It may be seen by reference to the table that one patient who recovered died ten months afterwards of cancer of the peritoneum, and one two years afterwards of hemiplegia; but all the others have maintained a condition of vigorous health. Last May, M. Nélaton saw several patients upon whom I had operated in 1859, 1860, and 1861. He examined them very carefully, and was very deeply impressed by the perfect health they enjoyed. Menstruation has returned in many cases with perfect regularity, and one patient bore a healthy child afterwards. As many of these women, now young and healthy, who are fulfilling their various duties in domestic service, or in the home life of single ladies, or as wives and mothers, and who are likely to continue to do so for many years, would in all probability have died a miserable death, months or years ago, had not their lives been saved by ovariectomy—it is for the Fellows of this Society to determine whether an operation which has led to such results is still to be stigmatised as unjustifiable—whether they who perform it are necessarily open to the reproach that they do so rather for their own selfish purposes than for the good of their patients—whether they who, in the face of evidence sufficient to convince any unprejudiced mind, continue to withhold from their patients a tried and approved means of curing a disease otherwise incurable and certainly fatal, are not open to a still more serious reproach—whether it does not become us (as men of science who practice our art not for our own advantage only, but with the earnest desire to do the very best that can be done for those who are confided to our care, or who trust in our knowledge, our skill, and our honour) no longer to oppose or condemn this operation, but rather to study its past history—to regard it with pride, as an offspring of British genius, cultivated by British industry—and to aid its future progress by perfecting our means of diagnosis; by ascertaining the conditions which should in any case encourage us to recommend the operation, or should deter us from doing so; and by investigating the avoidable or removable causes of excessive mortality, reduce it to that comparatively low proportion to which I feel confident it may and will be reduced, and thus render ovariectomy in each coming year more honourable to British Surgery, and more useful to Mankind.”

VII.—*Case of White Fibro-Serous Discharge from the Thigh.* By
A. B. BUCHANAN, M.D., F.F.P.S., &c.

This case is of the same character as those described by Drs. Carter and Waters in the previous volume of the *Transactions*, and of which we gave a full account in our issue for November, 1863 (Vol XXXVI., p. 413). There was the same white fibro-serous discharge from the upper and inner part of the thigh—in this case of a woman. Of this fluid Dr. Buchanan collected five ounces in an hour; but he believes that when the woman was moving about, it would have amounted to fully ten ounces in an hour. The fluid was like milk; sometimes more or less serous or opalescent. It coagulated spontaneously, separating into serum and clot. The clot entangled numerous cells and nuclei, and some oil globules. Dr. Buchanan refers to several similar cases that have been recorded, and proceeds to discuss the pathology of the affection. The assertion, that the fluid is milk, is disproved by the chemical and microscopical characters it presents. Dr. Buchanan believes it is not chyle, as was suggested by Dr. Carter, but that it is the white serum of the blood transuded through the capillaries of the part, the cells and nuclei being epithelial elements, produced in small numbers from the sudoriparous glands, or perhaps occasionally secreted by the rete mucosum of the excoriated surfaces.

Dr. Buchanan considers the disease to be “a rare functional affection of the glandular apparatus of the skin,” accompanied, as eczema so often is, and probably inseparably connected, with a retarded capillary circulation from the varicose condition of the veins of the limb, and he proposes to limit his treatment, at present, to perseverance, as far as practicable, in the use of the elastic stocking, with the local application, if necessary, of astringent powders, and an occasional recourse to tonics.

This paper is illustrated by a plate, showing the cutaneous surface of the thigh, with the discharge flowing, and the cellular elements in the coagulum. It derives additional importance from the light it throws on cases of so-called chylous urine.

VIII.—*Observations upon Syphilis, in its Manifestations as a Constitutional Disease.* By J. A. MARSTON, M.D., Royal Artillery.

In a paper in last year's *Transactions*, Dr. Marston described the primary manifestations of syphilis. In this he describes the secondary and tertiary symptoms. He is a believer in the two

forms of syphilitic sores—the soft, non-infecting; and the indurated, infecting, or true syphilitic sore; and it is the symptoms following the latter that he now describes. He traces the evolution and succession of syphilitic symptoms among soldiers as follows, but he does not mean to assert the course is always so regular:—

“After the true syphilitic primary sore upon the penis, the inguinal glands commence to become symmetrically enlarged and indurated, at a date corresponding pretty accurately with that of the induration appearing in the chancre. These chains of inguinal glands remain so affected for a very long time, and in spite of a course of mercurials, and hence offer a reliable test as to an infection with syphilis at a previous date.

“The earliest constitutional occurrences after these are—a gradually advancing chloro-anemia, with, frequently, an engorgement of some of the cervical glands (particularly those in the posterior and lateral aspects of the cervical region), and vague muscular pains, simulating rheumatism. The anemia becomes early marked, but it is obviously difficult to define the exact date of its appearance, or to say how much may be due to hospital treatment, &c.

“Enlargement of the posterior cervical glands I have traced as early as the fifth week from the date of the appearance of a primary sore, but it is generally nearer eight to twelve weeks that these can be discovered. They are much less frequently affected, and remain enlarged for a shorter period than those of the inguinal regions, and differ from them in feeling swollen only, without that well-defined hardness present in the latter.

“The rheumatic, or osteocopic pains are not always nocturnal only in character, and vary very much in degree and amount. They sometimes simulate a fibrous rheumatism, and affect the sheaths of tendons and muscles. Sometimes, however, they are distinctly nocturnal, and are attended with much tenderness along the course of the long bones; syphilitic nodes, however, rarely appearing.

“Often sore throat does not appear at all; when it does, it is one of the earlier symptoms. It varies in degree from a localized redness and congestion to one of extensive ulceration.

“In every case of infecting chancre, when not treated by specific remedies, that I have been able to trace, some constitutional symptoms (however slight these might have been), have appeared within three months from the date of the primary disease.

“In the great majority of cases the syphilide of the skin makes its appearance after these premonitory symptoms, and without any pyrexia, and, at first, is so trifling in character as to escape the attention of the individual. It ordinarily appears in the form of a dull-red erythema, upon which the squamous and other forms of eruption develop themselves.

"In no diseases of the skin are these affections of so mixed a character as in those caused by the syphilitic virus. Of course cases of unmixed and typical examples of psoriasis, lepra, &c., are common enough, but the majority will partake of more than one affection at the same time and upon the same or different parts of the body.

"This commingling and admixture of eruptions of syphilitic origin is very peculiar, and renders their classification difficult.

"Iritis, under my observation, has appeared more frequently in the papular forms of syphilide than in the squamous or pustular.

"In the majority of instances (happily) no tertiary symptoms appear. After many relapses perhaps of the secondary symptoms, the patient slowly recovers. Of the remaining cases, some have tertiary symptoms, slight in degree; others, these symptoms very severe and difficult of cure. Of course, however, it requires that patients should be for years under observation before we can conclude that no tertiary symptoms have followed.

"I may here remark, that constitutional symptoms appear under two typical limits, which contrast with one another.

"Thus, a cutaneous syphilide, wide in extent and very superficial in character, denotes the milder degree of constitutional infection; while the discrete and localized morbid processes, affecting the deeper tissues of the skin and mucous membrane, have the opposite character of a severe degree of syphilitic infection.^a

"With a view to prognosis, it is important to inquire:—What relation (if any) has the severity of the primaries to those of the later symptoms?

"From a consideration of my own notes of cases, I should infer that the following would be as approximate expressions to the truth as the facts warrant.

"1st. That the greater the induration, and the longer the period during which primaries remain unhealed, the more certain will be the severity of the constitutional infection.

"2nd. That the amount of ulceration, &c., of the primary sore stands in some relation to the worst and more intractable forms of secondary affections; *e.g.*, the pustular, ecthymatous, rupitic, the unhealthy ulcerations, nodes, and gummatous tumours."

The paper concludes with remarks on the contagiousness of the

^a "The results obtained from 'confrontation' upon the continent tend to establish the doctrine of the two sores (soft non-infecting, indurated infecting), generating their like; but no observations have been yet made as to whether the severer and milder degrees of syphilitic infection result from different degrees of activity or potency in the virus—*e.g.*, as obtained from different stages of the disease furnishing such virus; or whether these depend upon some constitutional differences in the persons of the recipients of the virus.

constitutional forms of syphilis—on the syphilitic disease of internal organs—on the influence of a warm climate on constitutional syphilis—and on the conveyance of the disease by vaccination.

IX.—*Remarks on Two Cases of Kelis.* By T. LONGMORE, F.R.C.S., &c.

This interesting account of a rare disease is illustrated by a plate.

X.—*On a Remarkable Case of Lesion of the Medulla Oblongata, with Remarks, &c.* By A. T. H. WATERS.

* *Remarks.*—The interest of the preceding case lies in the fact that the parts of the nervous centres which have been supposed by many physiologists to be the channels through which sensitive impressions are conveyed to the sensorium, were divided on one side, without loss of sensation following. The division of the restiform body was so complete, that it can scarcely be said that any portion of it remained untorn; so that, even admitting that the inferior laceration did not completely divide the continuation of the posterior column of the cord, although it is probable that but few fibres remained intact, the division of the tract higher up was almost, if not entirely, complete.

* The case presents us with a repetition on a healthy man of those experiments, so frequently performed by the physiologist on the lower animals, where the posterior columns of the spinal cord, or the restiform bodies, are divided for the purpose of ascertaining the conditions which result. Had the parts been divided with the knife, they could scarcely have been made to involve the injured portions, without encroaching on other parts, more completely than in this accidental lesion.

* The results of the case are directly opposed to the theory which has been supported by many eminent physiologists, that the posterior columns of the cord and their continuations, the restiform bodies, are the tracts by which sensitive impressions are conveyed from the posterior roots of the spinal nerves to the sensorium; and they tend to confirm in a remarkable manner the views of several recent physiologists that no such function is performed by these parts. Unfortunately, as far as I could see, the case does not give us any clue as to what the function of these nervous tracts is; the results are of a negative character, not the less important, however, as affording a support for theoretical views founded on experimental inquiry on the lower animals and pathological observations on man; and although the case is not of such a nature as to enable us to establish a positive doctrine of the function of the injured parts, it may help to clear up any doubt which may still exist as to their supposed function, and thus assist in the attainment of the truth."

XI.—*A Contribution to the Pathology of the Crura Cerebri.* By
HERMAN WEBER, M.D., &c.

This is an exceedingly valuable paper, and we regret that the space at our command does not enable us to give a sufficient analysis of it. The lesion was circumscribed and uncomplicated with any other morbid condition of the brain. It consisted of a clot, occupying a great portion of the internal and inferior part of the left crus, while the external and upper part appeared unaltered. The symptoms were total immunity of the intellectual faculties, with the exception of the first moments after the seizure, when the transitory loss of consciousness was, no doubt, due to the general shock, and not to the local affection—almost total paralysis of the limbs of the opposite side as to motion, and considerable impairment as to sensation—imperfect and less persistent paralysis of the muscles of the trunk, and of the fifth, of the pars dura of the seventh and of the ninth cerebral nerves of the same side; the affection of the pneumogastric nerve manifested itself in the more than usually slow and irregular action of the heart during the first days after the seizure. To the impaired action of the same nerve, Dr. Weber ascribes also the production of, or, at all events, the disposition to, the broncho-pneumonia and pleuritis appearing two months after the hemorrhage—the more so, as the right side was the one principally affected. The participation of the sympathetic nerve was further manifested by the increased temperature of the paralysed side. On the side of the lesion there was paralysis of the third nerve, causing, in addition to strabismus, some interesting phenomena of vision.

Dr. Weber gives references to parallel cases, and in a plate figures the seat and extent of the clot.

XII.—*Description of a Fetus, Born Without Heart, Brain, Lungs, or Liver.* By W. H. DICKINSON, M.D.

The author of this paper re-opens the controversy as to the method in which the circulation is carried on in monsters of this class, but without, in any degree, shaking our faith in the views propounded by the late Mr. Houston in the 10th and 24th volumes of the first series of this Journal. The matter is one of more importance than may at first appear—the question being virtually whether there is a capillary or other force capable of carrying on the circulation, or whether the acardiac fetus depends on a force

transmitted through the placenta from the heart of the perfect fetus to which it is a twin. The existence of a motive power of the circulation, independent of the heart's action, we believe to be established beyond a doubt, and we hold that no physician can practise successfully who does not recognize it. Those physiologists, however, who deny this power, assert that in the acardiac fetus the force is derived from the heart of a perfect fetus that is always, they say, attached to the same placenta. Cases have, however, been recorded where there was no second fetus; but, as their authenticity has been questioned, we cannot rely on them; but we cannot accept a theory such as that proposed by the author of this paper, which implies that the impure blood that has returned from the body of the acardiac fetus, is carried, without purification, through the whole course of the circulation of the perfect fetus.

XIII.—*Case of Extreme Deformity of the Neck and Forearm from the Cicatrices of a Burn; Cured by Extension, Excision, and Transplantation of Skin, Adjacent and Remote.* Exhibited by JOHN WOOD, F.R.C.S.

The deformity in this case was very great, and was most skillfully relieved chiefly by the transplantation of integument from over the sternum to the neck, and from the surface of the abdomen to the forearm.

XIV.—*Account of a Patient upon whom Ovariectomy was Performed Twice; with Remarks.* By T. SPENCER WELLS, F.R.C.S.

XV.—*On the Induction of Premature Labour in Cases of Pregnancy, Complicated with Albuminous Urine, Dropsy, and Amaurosis.* By ROBERT LEE, M.D., F.R.S.

In this paper three cases are mentioned. In the first, a primipara in the sixth month of pregnancy became amaurotic, and consulted Mr. Bowman, who found her suffering from albuminuria in a high degree. Dr. Lee was now consulted, and advised the induction of premature labour; but, before deciding on the operation, Dr. R. Ferguson was called in, and at his suggestion it was postponed, "chiefly on the ground that the life of the child would necessarily be sacrificed, as the pregnancy had not advanced beyond the sixth month." A fortnight afterwards the patient had an attack of convulsions, and labour was then induced, when a dead fetus of four

months, in a state of decomposition, was expelled. Is it possible, we would ask, that Dr. Lee and Dr. Ferguson never make use of the stethoscope when deciding on important operations?

XVI.—*Description of a New Iris Forceps.* Invented by W. R. BEAUMONT, F.R.C.S., Eng.

XVII.—*A Case of Strangulation of the Stomach in an Umbilical Rupture, and of Death During its Reduction under Chloroform.* By CHARLES H. MOORE, F.R.C.S.

XVIII.—*A Case of Transposition of the Great Vessels of the Heart.* By JOHN COCKLE, M.D.

XIX.—*A Case of Popliteal Aneurism, Cured by Digital Compression.* By GEORGE SOUTHAM, F.R.C.S.

We extract a portion of the author's remarks on this case:—

“The reasons which induced me to prefer compression to ligature of the femoral artery in the treatment of this case, are sufficiently obvious, as few enlightened surgeons would in the present day resort to the latter, except under peculiar circumstances, in aneurisms involving the principal vessel of the extremities. But though compression may be regarded as the best plan to adopt, yet the manner of its application is still a subject for discussion.

“Success in several previous cases induced me first to try instrumental pressure. It soon became evident, however, that the vitality of the limb was too much impaired to admit of this treatment. Indeed, the unusual size of the tumour, the unsatisfactory condition of the surrounding parts, as well as of the patient's general health, formed in themselves serious obstacles to any kind of operative interference.

“The iodide of potassium having been recently reported by M. Bouillaud^a to have cured an aneurism of the carotid, this remedy was administered to the patient for upwards of three weeks; but the sac continuing to increase in size, the pulsation becoming more distinct over its entire surface, and the constitutional symptoms more aggravated, it was thought desirable to discontinue it. Digital pressure was now determined on, which caused consolidation of the swelling in fifty hours, though during the first twenty it was only partially applied.

“The satisfactory result of this simple plan of dealing with such a

^a “*L'Union Med.*, Tome i., p. 436, 1859. For a *résumé* of all the facts relating to the iodide of potassium in the treatment of aneurism, see a paper by Dr. Roberts, *Brit. Med. Journal*, 1863, Vol. i. p. 83.

formidable disease was doubtless due to the care with which the compression was kept up by the students, all of whom took a deep interest in the case. And in other instances of this disease, where similar assistance can be obtained, I feel persuaded the issue will be equally successful, for all who had seen my patient considered his case very unfavourable for any kind of treatment.

“Many are the advantages of digital over instrumental compression. Not only does it seem to effect a cure in a short space of time, but with much less pain; and is less likely to lead to sloughing of the structures under pressure, which with the greatest precaution is liable to occur in some cases. The flow of blood through the aneurismal sac may probably not be so effectually prevented by this means, and indeed this is not to be desired, as fibrillation of the blood is more likely to occur and to be more permanent, if allowed to pass through the swelling in small quantity, and in a slow continuous stream. For digital pressure is not liable to the sudden alternations in force and volume which under instrumental pressure is apt to take place, in consequence of the tendency of the artery to escape from under the tourniquets on any slight movement of the limb.

“When a sufficient relay of assistants cannot be obtained to complete the cure by finger pressure alone, there need be no objection to the occasional use of instruments, or even, when practicable, to the flexion treatment recommended by Mr. E. Hart.

“The pressure itself may be discontinued for a short time, when it causes severe pain or interferes much with the functions of the surrounding parts; and this I consider a point of considerable importance, showing, as it does, that digital compression is applicable to aneurisms where instrumental is not feasible.

“Already there are on record two cases of aneurism of the ophthalmic artery successfully treated by intermittent digital pressure of the carotid, by Drs. Gioppi and Vanzetti, of Padua. In one, the carotid was compressed for periods of one or two minutes at frequent intervals, and at the end of four days all pulsation in the tumour had ceased. In the other, pressure was applied for five minutes at a time, and the cure was completed in eighteen days.^a

“It is, therefore, to be expected that iliac and axillary aneurisms will, in some instances, yield to this method of treatment; at least it should be tried in such cases before the patient is exposed to the dangerous operation of ligature.”

XX.—*Cases of Icthyosis Spuria Vel Sebacea.* By J. W. OGLE, M.D., F.R.C.P.

This is an account of a rare form of skin disease occurring in two

^a Holmes' System of Surgery, Vol. iii, pp. 482, 423, 1862.

sisters, due to an increased and unhealthy secretion of the proper sebaceous matter of the follicles, which accumulating, becoming indurated and discoloured by dust admixed, becomes also adherent to, although having no organic connexion with the subjacent surface of the skin. A coloured drawing is given of this affection. The disease, if such it may be called, speedily yielded to the use of a daily warm bath, and a lotion of diluted liquor potassæ

1. *Travels in Peru and India while Superintending the Collection of Cinchona Plants and Seeds in South America, and there Introduction into India.* By CLEMENTS R. MARKHAM. 1864. 8vo.

2. *Proceedings of Madras Government for 1861 and 1862.*

3. *Report on the Expedition to Procure Seeds and Plants of the Cinchona Succirubra, or Red Bark Tree,* by RICHARD SPRUCE, Esq., 1861.

4. *Report on the Bark District of Huanuco.* By G. J. PRITCHETT, Esq.

5. *Notes on the Propagation and Cultivation of the Medicinal Cinchonas.* By W. G. M'IVOR, Esq.

6. *Notes on the Medicinal Cinchona Barks of New Granada.* By H. KARSTEN. *And on the Cinchona Trees of Huanuco (in Peru).* By E. POËPPIG.

THE genus *cinchona*, whence the important order of *cinchonaceæ* is named, is thus described in Professor Balfour's *Class Book of Botany*:—

“*Cinchona* is the *genus* which furnishes the species of Peruvian bark-trees. They contain three important alkalies—quinine, quinine, and cinchonine, combined with kinic acid and a peculiar variety of tannin. Some of these have a brown, and others have a white epidermis, the former being the most valuable. The most important varieties in English commerce are:—Yellow or Calisaya bark, yielded by *Cinchona calisaya*; crown or Loxa bark, by *Cinchona condaminæ*, *var. vera*; Cusco bark, by *Cinchona pubescens*, *var. pallativiana*; gray or Huanaco bark, by *Cinchona nitida* and *Cinchona*

micrantha; Huamalis or rusty bark, by *Cinchona condaminera*, var. *chatmarquera*; fibrous or Carthagena bark, by *Cinchona condaminera*, var. *lancifolia*; hard Carthagena bark, by *Cinchona cordifolia*; and red bark, by an undetermined species. Quinine is got chiefly from *Calisaya* bark, cinchonine from *Cusco* and gray bark, and quinidine from several of the inferior kinds, such as the fibrous *Carthagena* bark. The region of South America, inhabited by cinchonas, extends over 29° of latitude, according to Weddell. It represents a narrow riband, which, with its bends, describes a vast curve following the direction of the great Cordillera of the Andes, commencing with the 19th parallel south, and generally coinciding with its eastern slope, where it maintains an elevation varying a little according to latitude, but confined within the limit of 7,000–8,000 feet. The middle of this curve, which is at the same time its most western limit and nearest the coast line, is situated near Loxa, in longitude 82° west of Paris—its lower extremity touches upon longitude 62° , and its upper disappears about 70° . As the bark is becoming scarce, it is of importance to extend the cultivation of the trees. *Cinchona calisaya*, or the yellow bark tree, has been introduced by Royle into India; some specimens were sent from the Edinburgh Botanic Gardens from seeds supplied by Mr. Pentland."

Further on in his notice of the genus, Mr. Balfour puts down the number of known species of *cinchonaceæ* at 2,500, of which the coffee tree (*Coffea arabica*), the ipecacuanha tree (*Cephælis ipecacuanha*), and the Cape Jasmine, of the genus *Gardenia*, are familiar species. With this remark we will proceed to give an account of the several steps by which, under the direction of certain gentlemen, this all-important result has been accomplished—namely, the introduction of the bark-yielding *cinchonæ* into India, and the successful propagation and cultivation of the plants there.

It will be observed that Mr. Balfour, in the latter part of his notice of the *cinchona* genus, written some time prior to 1855, mentions that the *cinchona Calisaya* had been introduced into India by Dr. Royle. This is not quite accurate, nor is it consistent with the narrative of facts which we have to relate. That no one took a greater and more active interest in the question than Dr. Royle, up to the day of his death, we are ready to affirm. And had Dr. Balfour stated that Dr. Royle had repeatedly pressed upon the attention of the authorities the introduction of the quinine-yielding *cinchona* into India, the least objection could not have been found

with his notice. But taking the word "introduction" in the only sense in which it can fairly be used in such a matter, Dr. Balfour's statement is incorrect. What Mr. Royle accomplished towards the introduction of the cinchona into India, and towards the naturalization and acclimatization there of the bark-yielding varieties of the *genus*, will hardly justify the amount of credit Dr. Balfour allots to him.

We have the less hesitation in saying this because Dr. Royle's scientific attainments and highly successful career are beyond question, and because Dr. Royle, so far back as 1835, in his work on *Himalayan Botany*, was the first to suggest the introduction of the cinchonas into India, as he was also the first to press upon the East India Company the introduction of the China tea plant into their Himalayan possessions.

It cannot be questioned, however, that in the fullest sense—in which only we have a right to make use of such a term—the "introduction" of the cinchonas into India has only just now been accomplished; and as far as it has gone is entirely owing, in the first instance, to the personal exertions of Mr. Clements R. Markham, and of Mr. Richard Spruce, who, assisted by gardeners Cross and Weir, procured the necessary seeds and plants *for* India; and, in the next instance, to Mr. W. G. M'Ivor's successful system of propagation and cultivation of the seeds and plants *in* India.

Some five-and-twenty years have passed since the idea of introducing and acclimatizing, in the hill ranges of India, the quinine-yielding cinchonas was first entertained and urged upon the notice of Government by Dr. Royle, and afterwards by Lord Bentinck. That the supply of the fever-allaying bark had, for several years, been inadequate to the demand, and that the forests of South America were rapidly disappearing before the axe of the Cascarilleros, were facts well known to professional men and to statesmen at the time. Nevertheless, years elapsed before any serious attempt was made to arrest what threatened to be the early extinction of this, the most valuable of our *Materia Medica* plants; and it was not until March, 1852, that the then Governor-General of India, Lord Dalhousie, took the matter seriously in hand, and pressed it upon the notice of the Court of Directors. The Court submitted his lordship's despatch to Dr. Royle, and that gentleman drew up a valuable paper on the subject, dated 27th June of the same year. Dr. Royle pointed out that "among the vast variety of medicinal drugs, there is not one, with the single exception of opium, which

is more valuable to man than the quinine-yielding cinchonas." He dwelt upon the value to England of the introduction of these plants into suitable localities in India, and the strong probability of entire success if the matter were taken up in earnest.

The subject, thus vigorously set on foot, was brought before the Board of Control, and an attempt was made to introduce the plants through Her Majesty's Consular Agents in South America. While these measures were being taken, Dr. Royle, in the interests of science and humanity, endeavoured himself, in the same year (1852), to carry out his own suggestion, and with that object sent to Calcutta seeds of the *Cinchona calisaya*, received from Mr. Weddell. But we learn from Dr. Anderson, the Officiating Superintendent of the Botanic Gardens, Calcutta,^a that "these seeds were sown, but none of them germinated."

In the same year, also at the suggestion of Dr. Royle, plants reared from Mr. Weddell's seed were obtained from the Botanical Gardens of Edinburgh, and were safely conveyed to India by Mr. Fortune, who delivered them to Dr. Falconer, at that time Superintendent of the Calcutta Botanical Gardens. Dr. Falconer, finding the plants dying off in Calcutta, forwarded them to Dr. Campbell, Superintendent of the Government Gardens at Darjeeling. Out of the number forwarded, three only reached him alive; and these, in the Spring of the following year, were reported "killed by the cold of last Winter." As Lord Canning, in his Minute of 20th October, 1856, remarked:—"The plants appear to have received precisely that treatment which would make their growth impossible, having first been subjected to the heat and moisture of Bengal, and then transferred to the cold climate of Darjeeling—without, it would seem, having been placed, at the latter place, under competent care."

Subsequently, seeds and plants were procured and forwarded by Mr. Pentland. The seeds were again sown in the Calcutta Botanical Gardens, but with the same result as before—they did not vegetate. Subsequently, plants were forwarded by Mr. Cope from Ecuador; and, although received in a living state, they likewise ultimately died.

Thus far no measure of success would seem to have rewarded the praiseworthy efforts of any of these gentlemen: nevertheless they

^a See Letter, from Dr. Anderson, Officiating Superintendent, Royal Botanic Gardens, Calcutta, to W. Grey, Esq., Secretary to Government of India, No. 333, dated 11th February, 1862.

were far from discouraged; again, in 1855, another attempt was made, under the auspices of Drs. Royle, Falconer, and Thomson, and this also ended in failure. In March, 1857, Dr. Royle drew up a full report upon the experiment, and carefully reviewed the means which had hitherto been adopted. He pointed out that all arrangements for obtaining seeds and plants had hitherto been left dependent upon the exertion of agents who might or might not second the proposals of their principals, and pressed upon the notice of Government the absolute necessity of selecting a special agent for the purpose.

It now became apparent to Lord Stanley, Her Majesty's Secretary of State for India, that if success were to be obtained at all in this important undertaking, it could only be secured by enlisting the services of a well-qualified agent to conduct the enterprise in person; and consequently, towards the end of the year 1859, Mr. Clements Markham was engaged for the special duty of procuring seeds and plants for India. As mentioned in the Resolution appointing Mr. Markham, his qualifications for the duty consisted of "a knowledge of the best cinchona districts, acquired during a residence in Peru and Bolivia; a general knowledge of the various species of the cinchona tree; an acquaintance with the Spanish language, and with the Quicha, or language of the Indians of the districts in question, and an intimacy with many of the public men and land-owners on the eastern slopes of the Cordilleras, where the cinchonas abound."

Before alluding to the way in which this gentleman discharged his duties, it may not be amiss to mention here that Mr. Markham's appointment was, on its announcement, severely animadverted upon, on the grounds that he had no special qualification for the duty; and, as far as he was concerned, the failure of the mission was confidently predicted. How far the prophecy has proved true will be seen as we proceed. We have not the pleasure of Mr. Markham's acquaintance, nor have we ever seen him, but we know that highly gratifying success has crowned his and his assistants' labours; and the flourishing in strong health of upwards of 300,000 cinchona plants under Mr. M'Ivor's charge, on the Neilgherry Hills of Southern India, proves that the introduction of the cinchona plant into India has at length been accomplished.

Mr. Markham's first act, after being entrusted with the conduct of the experiment, was to point out, in his letter to the India office, dated 20th July, 1859, that eight or nine of the more valuable

species of cinchona were scattered over a space of more than 1,400 miles along the eastern slopes of the Andes, and that his individual efforts would only enable him to procure one species. If the thing were worth doing at all, he added, it was worth doing well, and accordingly he recommended four separate expeditions into four different localities—into Bolivia, into Peru, into Ecuador, and into New Granada. For the expedition into Ecuador he suggested the employment of Mr. Spruce, and for New Granada he secured the services of Mr. Bollaert, in which, however, he was afterwards disappointed. He himself undertook the expedition into Bolivia, and he selected Mr. Pritchett for the forests of Peru.

These preliminaries having been settled, Mr. Markham wrote out detailed instructions for the guidance of Messrs. Spruce and Pritchett, particularly directing them to collect both plants and seeds, and to send plenty of the latter to the Governors of Trinidad and Jamaica; and having seen everything in train, Mr. Markham himself left London, and arrived at Guayaquil on the 19th of January, 1860, and at Lima on the 26th of the same month. Two practical gardeners, Cross and Weir, were selected to form part of the expedition, and to accompany the cases of plants to India. Weir was associated with Mr. Markham, and Cross with Mr. Spruce—and right well have both these gentlemen spoken of the services of their humble fellow-labourers.

We will not follow Mr. Markham through the various difficulties that beset his journey. We must refer our readers to his book of *Travels in Peru and India*, which will well repay a perusal. Suffice it to say that war was raging between Peru and Bolivia at the time Mr. Markham was in the country, from which and other causes he was unable to arrive at Arequipa until the 8th of March. On the 22nd, in company with gardener Weir, he went over snowy heights, 15,500 feet high, to Puno, and from thence to Crucero, the capital of Carabaya, which he reached on the 16th of April. By the 10th of May he had collected 529 cinchona plants in the Carabaya vallies of Sandia and Tamboopata:—

Cinchona calisaya, <i>var. vera</i> of Weddell, . . .	237
“ “ Morada— <i>C. boliviana</i> of Weddell, 183	
“ “ <i>Var. b. Josephiana</i> of Weddell, . . .	75
“ “ Verde,	2
“ Ovata, and <i>vulgaris</i> of Weddell, . . .	9
“ “ <i>Var. b. rufinervis</i> of Weddell, . . .	16
“ Micrantha— <i>C. affinis</i> of Weddell, . . .	7

The state in which he found the plants, the description of soil, and climate in which they grew, are all carefully noted in his Report. For passage across the Cordilleras, his system of dealing with the plants was to place them in rows, and sew them carefully up in Russian matting. He made a hazardous and difficult journey across the mountains, and finally reached Arequipa on the 27th of May, and Port Islay on the 1st June. There the plants were safely placed in Wardian cases, and put on board the steamer bound for Panama.

Mr. Markham intended to return to the forests in July and August for seeds; but from the unsettled state of the country, and the overt opposition he met with, he was compelled to give up his intention. He saw it would be worse than useless to attempt to collect seeds *in person*. He therefore took advantage of his intimacy with some native land-owners and others; and having made arrangements to secure a plentiful supply of seeds through them, he himself set sail for England, and on the 28th July arrived at Southampton.

In August, 1860, Sir Charles Wood expressed his entire satisfaction with the manner "in which Mr. Markham had discharged a duty of great public importance, voluntarily assumed, when the attempts previously made to meet with a duly qualified person to undertake it had proved fruitless."

On the 27th August, Mr. Markham, with the plants, sailed for India. The Madras Government, in the meantime, had been instructed to select sites and to make preparations to meet his wants on arrival. Copies of Mr. Markham's pamphlets and reports had already been furnished to the several Indian governments, for the information and guidance of those who were to take charge of the experiment in India. Before, however, following Mr. Markham into India, we will finish with the labours of his agents and associates in South America.

Mr. Spruce's commission, as we have already stated, was to procure seeds and plants of the "red-bark" tree, and to take whatever steps he considered necessary for that purpose. Previous to his undertaking the commission he had, in 1859, visited the "red-bark" region of Ecuador, on the north-western coast of South America, and had given an account of his proceedings in the *Linnæan Society Journal*. The report of his and Mr. Cross's operations in 1860, written in pamphlet form from Guayaquil, in September, 1861, gives a most interesting account of his Ecuador

expedition. Some idea of the labours he and Mr. Cross had to undergo may be gathered from the following extract, page 10, of his Report:—

“My preparations for entering the forest being completed, I was awaiting the coming of the dry season, when a severe attack of rheumatism so far disabled me that I determined to delegate my commission to Dr. James Taylor of Riobamba. Animated, however, by his assurance that in the warm forest I might expect to recover the use of my limbs, I finally resolved to proceed thither in his company. Not to interrupt the rest of my narrative with the continual groanings of an invalid, I may say here—once for all—that the benefit derived from the milder temperature was almost neutralized by the fogs and damp; and although upheld by a determination to execute to the best of my ability the task I had undertaken, I was but too often in that state of prostration when to lie down quietly and die would have seemed a relief.”

Mr. Spruce set out, in company with Dr. Taylor, on the 11th of June, and proceeded to Limon, which he meant to make the centre of his operations. Afterwards, Dr. Taylor went on to Ventanas, where he hoped to have found Mr. Cross, the eminent practical gardener, who, as we have already mentioned, had been sent out from England to assist Mr. Spruce in procuring the bark plants.

Mr. Cross, however, when about to start for Ventanas, was taken suddenly ill at Guayaquil, and did not join Mr. Spruce until the 27th July. In the interim, and until Mr. Cross arrived, Dr. Taylor and Mr. Spruce employed themselves “in visiting the ‘bark trees’ daily, which extended through a zone of about four miles in breadth; and in collecting and studying the accompanying vegetation.” After Mr. Cross’s arrival, a pit, with soil, was prepared, and 1,000 cuttings put in, and subjected to various modes of treatment. “But only those who have attempted to do anything in the forest, possessing scarcely any of the necessary appliances, and obliged to supply them, as far as possible, from the forest itself, can have any idea of the difficulties to be surmounted.”

Eventually all obstacles were overcome, and their labours were rewarded with success. An interesting account is given of their voyage with the plants, on rafts, to Guayaquil, which they reached at noon of the 27th of December. “The plants, thanks to Mr. Cross’s tender care, bore scarcely any traces of the rough treatment they had undergone in their descent from Limon, and in their late voyage from Aguacatal.”

At Guayaquil, on the 2nd of January, 1861, Mr. Spruce took leave of Mr. Cross and the plants, having seen them on board a steamer bound for Lima and Panama, from whence, in one of the West India mail packets, they were to find their way to England. Here we shall leave them for the present.

Mr. Pritchett, to whom was entrusted the expedition into the bark districts of Huanaco, left Lima on the 18th of May, 1860, and reached Huanaco, on the eastern slopes of the Andes, on the 28th. On the 9th of June he set out for the forest; and on the 13th reached Casapi, situated at the lower, or eastern, end of a valley of that name. In this valley he found all the trees, with but rare exceptions, had been felled, and "nothing was left to subsequent collectors but to wait till the younger plants should come to their full maturity." He, therefore, abandoned Casapi, and made for Cocheros, which he found to possess advantages over every other place; and here he made his entire collection.

Towards the end of August he carefully packed his seed and his plants, and reached Lima with his cargo without any mishap. At Lima the plants were transferred to Wardian cases, and finally reached Southampton in perfect health.

This concludes that part of the experiment of which the scene lies in South America. We have traced Mr. Markham's return to England, where he left, at Kew Gardens, as a depôt, seventeen young plants in excellent condition, and sailed for India with the remainder. Unfortunately the intense heat in the Red Sea, and for the six days he was delayed at Bombay, completely prostrated the plants, and on opening the cases at Ootacamund, on the 12th October, the roots were found to be decayed.

Still, under the skill and care of Mr. M'Ivor, 207 cuttings were obtained; and for some time many of them promised well, though eventually all except one died.

However disappointing it may have been to Mr. Markham personally to find the few individual plants, which he himself had accompanied to India, decayed and worthless, so many precautions had been taken by him that one solitary disappointment was of little moment to the experiment. It was not, however, the only failure. The plants of *Cinchona micrantha*, collected by Mr. Pritchett, arrived at Bombay on 13th December, and were found, on opening the cases, to be in a hopeless condition. Seeds also of the same species reached Ootacamund on the 13th of January, but were found to have lost their vitality.

In February, 1861, however, the first batch of Mr. Markham's seed arrived at Ootacamund. From these the first seedlings were raised in March, at the end of which month the number of promising seedlings was 172. This may be said to be the commencement of success.

On the 9th April, 1861, Mr. Spruce's plants, 463 in number, all healthy and well, also reached Ootacamund, in charge of Mr. Cross; and the highest credit is due to Mr. Cross for his tender care of the plants during their long sea voyage; he only lost six. Before, however, Mr. Cross's arrival the officious interference of two or three gentlemen in India had well-nigh shipwrecked the whole experiment; and, after a series of reports and counter-reports, all the arrangements made by Messrs. Markham and M'Ivor were reversed, and the failure of the experiment seemed only too probable. The subject dwindled into a silly dispute between two officers, who had no personal knowledge of the cinchona in its native habitat, and whose presumptuous and contradictory assertions must have astonished Mr. Markham not a little.

It is difficult to say to what lengths the controversy might have gone had not Sir William Denison, in the meantime, become Governor of Madras. Fully comprehending the importance of the experiment, Sir William went heart and soul into the question. He saw at a glance that the disputants were little better than empirics, and, if dependence could not be placed upon Mr. Markham, that no one in India could pretend to an opinion of any value upon the subject. The Government order reversing Mr. Markham's arrangements was at once cancelled; and, on Mr. Markham's recommendation, Mr. M'Ivor was solely entrusted with the conduct of the experiment.

From the time that the experiment was placed in the hands of Mr. M'Ivor, to whose attainments in botany and practical horticulture Sir William Hooker, Lindley, and many others, have borne ample testimony, nothing could have gone on more satisfactorily. The experiment, however, had still to undergo another trial, and run the gauntlet of Mr. Anderson's criticisms; and there still remained the best mode of out-door culture to be determined. Both Messrs. Markham and M'Ivor strongly advocated open cultivation; others, and particularly those who had been to Java, maintained that the cinchona should be grown under the shade of forest trees. After actual experiment, Mr. M'Ivor was enabled to report to Government, in June, that of three plants, one of which was planted in an open spot, and two under shade, the one in the open was

growing luxuriantly, while the two in the shade were injured by the drip from the trees. This seemed conclusive. At the same time he reported that, including the plants brought by Mr. Cross, 463 in number, he had upwards of 2,000 plants under his charge. Of his first sowing of seeds only three or four per cent. germinated; of his second sowing from fifteen to twenty-five per cent. germinated; of his third sowing from sixty to ninety per cent. germinated. Thus, judiciously and by careful experiment, had he to feel his way to a success altogether unprecedented.

While these results were being obtained the Governor-General of Netherlands India offered the Government of India a supply of cinchona seeds and plants; and Dr. Anderson, Officiating Superintendent of the Calcutta Botanic Gardens, was sent to receive charge of the seeds and plants, and to convey them to Ootacamund. Dr. Anderson went to Java for the plants, and, on the 17th of December, safely delivered them over in charge to Mr. M'Ivor at Ootacamund. The plants were as follows:—

	Number.
<i>Cinchona calisaya</i> ,	50
„ <i>pahudiana</i> ,	284
„ <i>lancifolia</i> ,	4
	<hr/>
	338

The *C. pahudiana* has since been found to be a worthless species.

As far as the conveyance of the plants from Java to India Mr. Anderson discharged his duties satisfactorily, and we cannot discover in the orders of his Government that he was required to do anything else. The temptation, however, to add to what Dr. Karsten calls the “complicated state of our knowledge of the quina barks” seems to have been too much for Dr. Anderson; and, on his arrival in Calcutta, he accompanied the report of his return with an account of his “investigations in Java and on the Neilgherries, as well as of his study, since 1854, of the subject of the introduction of the species of cinchona into India.” Dr. Anderson was a little over a month in Java, and about a week in the Neilgherries. His report is an uninteresting and wearisome disquisition on the geology, meteorology, and botany of Java and Southern India, and contains many errors of fact and inference, which were subsequently exposed by Mr. M'Ivor.

“The Government, however, had not implicit faith in Dr.

Anderson, and Sir William Denison checked any disposition to place undue reliance on his statement, by minuting upon the Report as follows:—

“It appears to me that Dr. Anderson has mistaken the conditions of the experiment now making upon the Neilgherries as to the cultivation of the different species of cinchona. The object has been to ascertain whether, in a climate differing in many respects from that in which the cinchona is found, it may not be possible, by care and attention, to acclimatize the plant, so as to perpetuate and cheapen the supply of a medicine—the importance of which, in a country like India, it is impossible to over-estimate. The Government and its agents are perfectly cognizant of the difference between the climate of the Neilgherries and that of the slopes of the Himalayas; they did not depend upon the brief experience of Dr. Anderson, who, in a residence of about a week on the hills, in the depth of Winter, could hardly be supposed to have acquired sufficient knowledge of the place to have been able to lay down dogmatically either the laws which regulate the weather, or the action of this upon plants raised from seeds or cuttings in the locality itself—but they feel that there are quite sufficient grounds, both in the statement of Mr. Markham, who selected the site, and in those of others who have visited the experimental plantations in Java, to justify a belief that the cinchona, in some of its most valuable species, may be profitably cultivated on the Neilgherries; and they see nothing in the present paper of Dr. Anderson which would induce them to stop the experiment which has been commenced in such a satisfactory manner by Mr. M'Ivor.”

Thus ended the last attempt to force upon Government, as facts, opinions and observations which well nigh ruined and certainly retarded the introduction of the cinchona into India.

Since the commencement of the experiment progress reports have been periodically called for by Government, stating the number and condition of the plants in Mr. M'Ivor's charge. Perhaps no better plan of making known the results that have been obtained up to the beginning of the present year can be adopted, than that of giving these Reports in their entirety. We need not go further back than March, 1861. On the 30th of that month the following Report from Mr. M'Ivor shows the number of seeds raised at Ootacamund up to that date:—

Names of Species	Nature of the soil in which sown	Amount of Shade	Amount of Water	Preparation of Seeds before Sowing	No. of days before germination took place	No. which germinated strongly	No. which germinated weakly	Total No. of Seedlings	Remarks
No. 1. Cinchona micrantha, variety—Provinciana.	A mixture of three equal parts—one of burned earth, one of sand, and one of very old cow dung.	Shaded in bright sunshine only.	Watered sparingly at first, and only when the soil was dry on the surface.	Steeped for four hours in oxalic acid.	62	61	16	77	All the seeds were sown in flower-pots, well drained, and the soil boiled, in order to destroy the grubs and larva of insects which would otherwise devour the seeds or young plants as they began to grow. After the soil is boiled it is allowed to dry, then mixed in a dry state, and put into the pots. It is important it should be mixed dry; otherwise it hardens.
No. 2. Do., do.	Do., do.	Do., do.	Watered morning and evening.	Twelve hours in lime.	—	None.	None.	None.	
No. 3. Do., do.	In brown loam, selected by Dr. Macpherson.	Shaded throughout, except in the mornings and evenings.	Do., do.	Steeped for four hours in oxalic acid.	64	None.	1	1	
No. 4. Do., do.	In black loam, selected by Dr. Macpherson.	Do., do.	Do., do.	None.	—	None.	None.	—	
No. 5. Do., do.	A mixture of equal parts of loam, burned earth, and leaf mould.	Shaded in bright sunshine only.	Watered as No. 1.	None.	65	None.	8	8	
Cinchona micrantha, var. Fata de Galinazo.	Soil prepared as at No. 1.	Do., do.	Do., do.	Steeped as No. 1.	63	18	6	24	
Do., do.	Soil as No. 1.	Do., do.	Do., do.	None.	—	None.	None.	—	
Cinchona nitida,	Soil prepared as at No. 1.	Do., do.	Do., do.	Steeped for four hours in oxalic acid.	66	46	14	60	
Do., do.	Prepared as at No. 4.	Do., do.	Do., do.	None.	68	None.	2	2	
						125	47	172	

"In the treatment of these seeds (Mr. M'Ivor says), they appeared to be impatient of too much shade and moisture, soon becoming mouldy and rotting off. The seeds were sown on the surface, and covered with a thin coating of finely-cut moss. The black and brown loams, as used in Java, seemed to retain too much water, and are certainly unsuited for rearing old seeds. Fresh gathered seeds, possessing great vital power, may grow in loam, but not so freely as they would in soil prepared as at No. 1. The seeds are easily distinguished when they begin to germinate, as they strike their radicles into the ground with great force, considering the small size of the seed. The radicle being established in the ground, the plumule is raised up with the seed on the top of it, where it remains three or four days, then it falls off, and the seed-lobes (cotyledons) expand. I give this description of the process of germination, as I find it is not described in any of the works I possess."

On the 9th of May the number of plants had increased to 1,128, including the 463 which Mr. Cross delivered over to Mr. M'Ivor on the 9th April:—

<i>Cinchona succirubra</i> ,	507
„ <i>calisaya</i> ,	4
„ <i>nitida</i> ,	392
„ <i>micrantha</i> ,	211
„ <i>peruviana</i> ,	14

On the 9th of August the number of plants had increased to 3,536:—

Names	Number	Remarks
<i>Cinchona succirubra</i> , or red bark,	1,517	The imported plants are all in a very promising condition, many of them being in the most luxuriant state of health.
<i>Cinchona calisaya</i> , calisaya bark,	6	
<i>Cinchona nitida</i> , genuine grey bark,	804	The largest of the plants measure 2 feet 6 inches to 2 feet 10 inches high, and some of their leaves measure 7½ inches by 11½ inches.
<i>Cinchona micrantha</i> , var. provinciana,	896	The average growth of the month being 1¾ inches.
<i>Cinchona micrantha</i> , var. Pata de Gallinazo, . .	42	The maximum growth made by the most luxuriant shoots being 7 inches.
Species without name, .	271	The first of our seedlings are from 6 to 7 inches high, and from 6 to 8½ inches in diameter across the leaves. The average growth of the month being about 1½ inches, while the maximum monthly growth made by the most vigorous plants is 2½ inches.
Total,	3,536	

On the 31st December the number had increased to 8,603.

On the 30th April, 1862, they had increased to 31,495, as follows:—

Botanical Names	Commercial Names	Number of Plants	Value in the London Market, per lb., of Dry Bark	Remarks
1. <i>Cinchona succirubra</i> ,	Red bark, . . .	14,450	s. d. s. d. 2 6 to 8 9	In fine health.
2. <i>Cinchona calisaya</i> , .	Yellow bark, . . .	237	2 10 to 7 0	Do.
3. <i>Cinchona condaminæa</i> , var. <i>uritusinga</i> , . . .	Original Loxa bark,	1	2 10 to 7 0	Promising.
4. <i>Cinchona condaminæa</i> , var. <i>chahuarguera</i> ,	Rusty crown bark, .	8,000	2 10 to 7 0	In good health.
5. <i>Cinchona condaminæa</i> var. <i>crepilli</i> , . . .	Fine crown bark, .	105	2 10 to 6 0	Do.
6. <i>Cinchona lancifolia</i> , from Java, . . .	Crown bark, . . .	1	1 8 to 2 10	Unhealthy.
7. <i>Cinchona nitida</i> , . . .	Genuine grey bark,	2,922	1 8 to 2 9	In fine health.
8. <i>Cinchona</i> species with- out name, . . .	Fine grey bark, . .	1,211	1 8 to 2 10	Do.
9. <i>Cinchona micrantha</i> ,	Grey bark, . . .	3,786	1 8 to 2 9	Do.
10. <i>Cinchona peruviana</i> , .	Finest grey bark, .	357	1 8 to 2 10	Do.
11. <i>Cinchona pahudiana</i> , from Java, . . .	Unknown, . . .	425	Worthless	Do.
Total number of plants, . . .		31,495		

On the 31st August, only four months later, the number of plants had again more than doubled:—

Botanical Names	Commercial Names	No. of Plants on the 31st August, 1862	Value per lb. of dry Bark in the London Market
1. <i>C. succirubra</i> , . . .	Red bark, . . .	30,150	s. d. s. d. 2 6 to 8 9
2. <i>C. calisaya</i> , . . .	Yellow bark, . . .	1,050	2 10 to 7 0
3. <i>C. condaminæa</i> , var. <i>uritu-</i> <i>singa</i> , . . .	Original Loxa bark,	41	2 10 to 7 0
4. <i>C. condaminæa</i> , var. <i>chahay-</i> <i>guera</i> , . . .	Rusty crown bark,	20,030	2 10 to 7 0
5. <i>C. condaminæa</i> , var. <i>crepilli</i> ,	Fine crown bark, .	236	2 10 to 6 0
6. <i>C. lancifolia</i> , . . .	Pitayo bark, . . .	1	1 8 to 2 10
7. <i>C. nitida</i> , . . .	Genuine grey bark,	8,500	1 8 to 2 9
8. <i>C. species</i> without name, .	Fine grey bark, .	2,440	1 8 to 2 10
9. <i>C. micrantha</i> , . . .	Grey bark, . . .	7,400	1 8 to 2 9
10. <i>C. peruviana</i> , . . .	Finest grey bark, .	2,295	1 8 to 2 10
11. <i>C. pahudiana</i> , . . .	Unknown, . . .	425	Worthless
Total number of plants, . . .		72,568	

On the 31st March, 1863, the number of plants stood as follows:—

No. of Species	Botanical Names	Commercial Names	No. of Plants
1	<i>C. succirubra</i> ,	Red bark,	51,643
2	<i>C. calisaya</i> ,	Yellow bark	1,540
3	<i>C. officinalis</i> , var. <i>Condaminaea</i> (<i>C. urit-singa</i> Howard),	Original Loxa bark,	969
4	Do., var. <i>Bonplandiana</i> (<i>C. chahuaguera</i>),	Select crown bark,	68,757
5	<i>C. crespilla</i> ,	Fine crown bark,	903
6	<i>C. lanceifolia</i> ,	Pitayo bark,	1
7	<i>C. nitida</i> ,	Genuine grey bark,	8,326
8	<i>C. species</i> without name,	Fine grey bark,	2,623
9	<i>C. micrantha</i> ,	Grey bark,	8,424
10	<i>C. peruviana</i> ,	Finest grey bark,	2,937
11	<i>C. paludiana</i> ,	Unknown,	425
Total number of plants,			146,548

This does not include 2,628 plants which had been distributed to the public

We need not follow these reports any further. The multiplication of plants went steadily on, until, on the 1st of January of this year, the number had reached the enormous figure of 349,226.

State of Cinchona Cultivation, 1st January, 1864.

Plants permanently planted out in the Denison plantation,	66,622
Plants in the nurseries in the open air,	138,962
Plants in propagating-house and hardening-pits,	72,469
	278,053
No. of cuttings and layers,	71,173
	349,226

In an excellent report, by Mr. M'Ivor, dated May, 1862, and in his pamphlet, published by order of Government, and mentioned at the head of this article, every information is given of the mode of propagation and cultivation pursued by him. The difficulties he met with, and the state of the experiment in its several stages are carefully noted. We must, however, refer our readers to the papers themselves. We cannot do more than cursorily allude to them.

The great object kept steadily in view was the multiplication of

the plants as rapidly as possible, and, while pursuing this, the noting minutely and accurately of the various conditions affecting their health and growth. At first propagation was carried on by layers and cuttings; but afterwards it occurred to Mr. M'Ivor to propagate by leaves with the bud attached, and in this he met with complete success.

We have already alluded to the Java system of cultivation under the shade of trees, and the attempt made to force this system upon the Madras Government. We need not refer to the matter again. Open cultivation eventually carried the day as the system approving itself to the minds of Messrs. Markham, Spruce, Howard, Weddell, and all who are authorities on the subject. Even Dr. De Vry—the gentleman in charge of the cinchona experiment in Java, who accompanied Dr. Anderson in his visit to the cinchona plantations of that island—has himself condemned the Java system. He lately paid a visit to the Denison plantations on the Neilgherries, and examined minutely into all the facts, cutting down a tree and analyzing the bark. When he had completed his enquiries he not only came to the conclusion that Mr. M'Ivor's system was the right one, but he went away “with the determination to force its adoption on the Dutch Government; or, in the event of their refusal, to resign his connexion with the undertaking.”

The first planting out by Mr. M'Ivor commenced in 1862, in which year sixty acres were cleared and planted, some with and some without shade, at the Dodabetta site, Ootacamund; and at the Neddywattam site 129 acres were more or less prepared, and twenty-one planted out.

To give an idea of the individual growth of each plant, the following table shows two months' growth of eleven plants, planted by Sir William Denison on the 30th of August, 1862:—

No.	Height in Inches when planted, 30th August, 1862	Height in Inches on 31st October, 1862	Growth in Two Months
1	23	31	8
2	16 $\frac{1}{2}$	28	11 $\frac{1}{2}$
3	19	25	6
4	15	23	8
5	27	36	9
6	20	28	8
7	21	30	9
8	18	28	10
9	20	26	6
10	20	32	12
11	18	30	12

At the same date (31st October, 1852) the largest plant possessed by Mr. M'Ivor measured six feet nine inches high, with branches from three to five feet in length, and a stem of five inches and three-quarters at a distance of half a foot from the ground.

In April, 1863, specimens of Neilgherry cinchona bark, wood, and dried leaves, were sent to Mr. Howard, the eminent chemist, for analysis. About this time also, or a little earlier, it was discovered by Mr. M'Ivor that the cinchona tree possessed the power of rapidly renewing its bark if the spaces from which the bark is taken are immediately covered with damp moss. A piece of bark renewed in this manner was likewise sent to Mr. Howard.

In May Mr. Howard reported the result of his examination to be very satisfactory; and stated that he found exactly the same constituents in the Neilgherry bark as in the South American red bark.

As the Neilgherry bark upon which Mr. Howard experimentalized was bark of but fifteen months' growth, his favourable analysis may be said to establish the fact that the Madras bark promises to be rich in alkaloids beyond all comparison; for there can be no doubt but that the alkaloids will yearly increase with the growth of the plants; and we should not be surprised if a per centage of seven, or even ten, were eventually obtained.

It is true that this per centage amount has never been reached in South America, even under the most favourable circumstances; but that is no reason why it should not be obtained from plants under a high state of culture, like those in the Denison plantations on the Neilgherries.

Whether, however, our expectation in this respect be realized or not, we can now point to acres upon acres of young trees, and confidently say that thus far has been accomplished, beyond all expectation, the introduction of the quinine-yielding cinchonas into India, and their successful acclimatization there.

The great importance of the experiment, the inestimable value of the plant, and the blessing its successful cultivation will confer upon the whole human race, will best be understood by students of medicine and by dwellers in malarious regions. Throughout the world (with all deference to so great an authority as Dr. Royle, who places opium first) there is no drug *more* esteemed in the art of healing than quinine. When, therefore, we consider the enormous price quinine now sells at in the market, and the probability of the early extinction of the quinine-yielding cinchona tree in South

America, we shall be better able to appreciate the importance of Mr. Markham's labours.

In 1852 the cost to the Government of India of supplying their hospitals with quinine, amounted, annually, to £7,000; and, with the largely-increased European force now in the country, the cost will now be nearly twice that sum per annum.

To the local knowledge, carefully-laid measures, and practical good sense of Mr. Markham, then, as the gentleman to whom was entrusted the entire conduct of the experiment from first to last, the success of the several South American expeditions is mainly due. Whether we consider the hardships he personally encountered, the vigour which he instilled into his associates and agents, or the patience and skill by which he overcame the fears and counteracted the opposition of natives and officials, we can but come to the conclusion that a very great measure of credit is due to him. Mr. Markham, in his published book of travels, modestly assigns the chief credit to Messrs. Spruce and M'Ivor; and no doubt great credit is due to these gentlemen, and especially to the latter; still Mr. Markham must ever remain *dux et princeps* in the great work, which we may now pronounce accomplished, of the introduction of the quinine-yielding cinchonas into India.

Medicines: their Uses and Modes of Administration. By the late J. MOORE NELIGAN, M.D. Sixth Edition. Edited by RAWDON MACNAMARA, F.R.C.S.I., Professor of Materia Medica to the Royal College of Surgeons, Ireland. Dublin: Fannin & Co. 1864.

SINCE Europe emerged from the darkness of the middle ages great discoveries in science and arts, and important developments in the constitution of society, have served to distinguish the particular periods in which they occurred. The age of the discovery of printing, the age of railways, and the age of electric-telegraphy mean not only the precise times at which those great triumphs of human intelligence were achieved, but also a period of many years following, and during which they respectively formed a primary subject of popular attention. When the social history of our own time occupies the pen of a future Macaulay, what brilliant discovery

or what peculiar aspect of society will he select as the most fitting to distinguish it? Will he term it the age of industrial exhibitions? or of scientific congresses? or of competitive examinations? Perhaps he may style it the *age of authors*. This, to our mind, would be the most suitable designation, for never since the days of Caxton have there been greater numbers of contemporaneous aspirants for distinction in the wide domains of literature than in this year of grace, 1864.

In the classic days of Swift, Addison, and Goldsmith it was a distinction of no ordinary character to be an author; and few at that time aspired to climb the heights of Parnassus unless they felt themselves animated by at least a spark of the Promethean fire. Most of them might have said, with Virgil:—

“Me Parnasi deserta per ardua dulcis
Raptat amor: juvat ire jugis, qua nulla priorum
Castalium molli devertitur orbita clivo.”

In those days it was not only a distinction to be an author—it was a privilege to know one. It was something worth boasting of to have the friendship of even the least celebrated contributor to the *Spectator* or to the *Tattler*. But *tempora mutantur*; authors are now so numerous that the difficulty is, not to have one for a friend, but to have a friend who is not one. The time appears to be rapidly approaching when every one will be his own author. At present the guild of literature embraces so many members that a mere acquaintance with their names, much less with their writings, is too great a tax on the memory of any man, except, perhaps, that of a Mezzofanti. Of course, in a multitude of writers, as well as in a multitude of councillors, there is wisdom; but we venture to say that, in by far the great majority of the literary works of the day, there is little learning and less wisdom evinced—though there is great ambition displayed. The greater number of our authors contribute, no doubt, to the periodicals and to the newspapers; but they would prefer favouring the public with their lucubrations in a separate form—in pamphlet or book—were it not for certain monetary considerations relative to printers and publishers. Very often, however, the small *litterateurs* make, “regardless of expense,” an appearance in the form of a small work, with large type, broad margins, and no originality. What would Fielding and Smollett say if they could see the modern *novelettes* of sixty pages of primer? and would not

Boerhaave or Cullen stare at the miniature treatises on materia medica and therapeutics with which the medical press is now flooded? A single, and by no means indispensable, article of the *Materia Medica* is made a peg upon which to hang a book. We have separate treatises on such comparatively unimportant substances as veratria, vegetable charcoal, and even glycerine, to say nothing of the monographs on iron and its compounds, cod-liver oil, and other really valuable remedial agents. As for the ills which flesh is heir to, every one of them has called at least one author into existence, and some of them have respectively afforded texts for hundreds of volumes. Of these works it may be truthfully said that few of them have been really required, and that the information which they afford is to be found in the larger and systematic works on the sciences directly or indirectly relating to the curative art.

Works, however, occasionally emanate from the press which really supply a want, and in which we vainly seek for the indications of the mere book-maker—broad and comprehensive works, abounding in solid information, and exhibiting the style of an accurate and accomplished writer. A production of this kind we have in the volume which lies before us—the sixth edition of *Medicines: their Uses and Modes of Administration*, originally written by our predecessor in the editorship of this Journal, and now revised and edited, we may safely say re-written, by Professor Macnamara. To pass it by with a simple commendation would be unfair to both the author and our readers. It would be unjust to the author, because he has produced a work of which he may well feel proud, and for which he deserves a high meed of praise; it would be unfair to our readers were we not strongly to solicit their attention to a volume teeming with instruction which cannot fail to prove of the utmost value to very many of them. It is really refreshing to review a work in which one can perceive nothing to abuse. Critics are not always so ill-natured as those of that ilk who once invoked the ire of a noble bard. Were there serious defects in the work before us we should feel it our duty to expose them; but we can say, in all candour, that it would be mere hypercriticism were we to find fault with a book of which the excellence is so apparent and the defects are so few and insignificant.

In this country there is no work better known to medical men than *Neligan's Medicines and their Uses*. Imperfect in many respects, as the first edition unquestionably was, it at once became a favourite, and each successive issue added largely to its popularity. No technical

or professional work, however successfully circulated at its first appearance, continues to be largely in demand unless it possess intrinsic merits of a high order. No better evidence of the degree of estimation in which Neligan's *Medicines and their Uses* has always been held could be offered than the fact of five large editions having been exhausted in the space of twenty years. We have so repeatedly noticed this work that we might have felt it unnecessary to do more than make such an announcement, were it not that it is presented to us in a greatly modified form. Before the preparation of this edition was undertaken the author's earthly labours were, alas! brought prematurely to a close, and the task devolved solely upon Dr. Rawdon Macnamara—a gentleman in every way qualified to perform it efficiently, and who, even had Dr. Neligan lived, would, as we are informed, have been entrusted to revise the greater portion of the work. The New National Pharmacopœia, too, has made its appearance since the fifth edition of Neligan's *Medicines and their Uses* was published; so far, therefore, as all the officinal preparations are concerned the present issue may be regarded as a perfectly new work. But this is not all, for we find that the portion of the subject matter of the former editions, which has been retained in the present one, is almost completely re-written—a step rendered desirable, nay necessary, by the recent remarkable advances made in chemistry, botany, and the cognate sciences. Finally, the work is enriched by the description of 150 articles not mentioned in the previous editions, some of which possess great interest. As a specimen of the articles for which Dr. Macnamara is solely responsible we quote that on “Calabar Beans”:—

“**PHYSOSTIGMA VENENOSUM.** *Calabar Bean. Ordeal Bean of Old Calabar.* The plant which furnishes this seed is a native of Africa, growing in marshy places in the vicinity of Attarpah and Old Town in Calabar; belonging to the Natural family *Leguminosæ*, sub-order *Papilionaceæ*, tribe *Euphaseolæ*. Its title *ordeal* bean it derives from the fact of its being used as a test of innocence or the reverse in the case of parties accused of witchcraft in Calabar; if rejected by vomiting, and the individual recovers, he is adjudged innocent, but if it purges or kills the accused, he is adjudged guilty.

“**BOTANICAL CHARACTERS**—A large creeping plant, turning from right to left. Root spreading, with numerous fibrils, and often small succulent tubes attached. Stem two inches in diameter at thickest part, attaining a height of fifty feet; wood of stem porous, containing limpid, astringent, and acrid fluid. Leaves alternate, stipulate, petiolate, pinnately trifoliate. Inflorescence axillary; flowers about an inch long,

half an inch broad. Calyx campanulate. Corolla papilionaceous, of a pale pink colour, with a purplish tinge. Stamens ten, diadelphous. Pistil more than one and a half inch long; ovary stipitate, rough on the surface; style curved, smooth, except below the stigma, where the concavity is curved with a continuous line of hairs, which give a marked barbate appearance; stigma blunt, covered by a remarkable ventricular sac or hood, which extends along the upper part of the convexity of the style, and from which appearance it derives its present name, derived from *φυσδεύειν*, to inflate, and *στρυμα*, applied to the upper part of the style. Ovules 2-3. Legume, when full grown, about seven inches long, elliptico-oblong, dehiscent. Seeds 2-3, about an inch long, three-quarters of an inch broad, weighing from forty to fifty grains. Hilum dark, sulcate, extending along the whole convex placental edge of the seed, other edge straight. Cotyledons pale, hypogeal.—BALFOUR.

“CHEMICAL PROPERTIES.—The active principle of the Calabar bean is an alkaloid undoubtedly possessed of most subtle poisonous properties. Dr. Christison has ascertained that it is soluble in alcohol, having obtained from the seeds an extract amounting to about 2·7 per cent. of the quantity operated upon. More recently Messrs. Jobst and Hope have succeeded in insulating the active principle, which, according to their statement, exists only in the cotyledons.

“THERAPEUTICAL EFFECTS.—For the first accurate description of the effects produced by this medicine we are indebted to Professor Christison, who carefully examined into its physiological effects upon rabbits, and subsequently upon his own person. He describes the symptoms following the mastication and swallowing of twelve grains of the seed as being, first, giddiness increasing in intensity, torpor, slight twitching of the pectoral muscles, sluggishness of articulation, great irregularity of the pulse as also of the heart, accompanied with tumultuous action of that organ, great pallor of countenance, extreme prostration, accompanied with marked loss of muscular power, which he attributed rather to a want of an exercise of the powers of volition than to any absolute deficiency in the muscular power; the intellectual functions remained perfectly unaffected. In a wholesale case of poisoning with this bean in Liverpool, the symptoms described present a close resemblance to those placed on record by Dr. Christison, but in addition to those he described, well-marked *contraction* of the pupil of the eye was observed, a symptom which recent observations on the action of this medicine had led the gentleman, in whose charge the cases were, to look for. The only use, so far as I am aware, to which the Calabar bean has been as yet applied is to produce contraction of the pupil. This can be done either by introducing a minute proportion of the alcoholic extract or of a paper prepared for the purpose into the eye, when contraction of the pupil will present itself in a period of time varying from ten to thirty minutes. Mr. Squire has introduced to the notice of the profession two preparations of Calabar, one a paper impregnated with the alcoholic extract, a second composed of gelatine similarly impregnated, and rolled out into sheets; both are

divided into small squares, one of which is generally sufficient to produce the desired effect. For this important addition to our ophthalmic therapeutics we are indebted to Drs. Frazer, Robertson, Wells, &c.

“In poisoning by the Calabar bean, an accident not unlikely to occur from careless keeping, and the blandness of its taste, the treatment should be first emetics, then strong coffee and diffusible stimulants.”

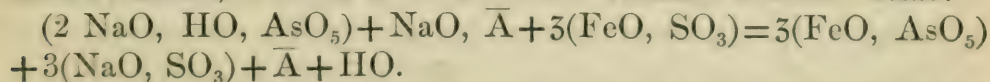
We have said that Neligan's *Medicines and their Uses* was always a favourite with the practitioner; it must, however, be allowed that it was never a popular text-book with the student of medicine. It did not enter sufficiently into the chemical *rationale* of the various Pharmacopœia processes, and, consequently, it did not afford the kind of information in relation to medical chemistry which would enable the student to pass his examination in that department of science. In the present edition this drawback is completely obviated. The changes which take place in the preparation of acids, salts, alkaloids, and the other classes of substance mentioned in the Pharmacopœia, are described with a degree of minuteness and accuracy that leaves nothing to be desired. At the same time the student is not made to drink too deeply at the Pierean spring; he is not perplexed by the nomenclature of Laurent or of Gmelin, nor puzzled by the unitary system of notation. He has the generally-received, and not too abstruse, theories relative to ammonia and its compounds explained clearly to him; and, whilst the meaning of the terms ammonium and amidogene is made apparent, in language clear, simple, and concise, his brain is not addled by an attempt to make him comprehend the poly-ammonias, nor is he required to understand why it is that ammonia ought in strictness to be called nitramine. In short the chemistry of this work, though perfectly accurate, is far from being recondite; and we, therefore, predict for it a most favourable reception amongst the students as well as the professors of medicine.

Sophistication of drugs and chemicals is a practice which prevails to a much greater extent than is dreamt of in the philosophy of the purchasers of those commodities. It is on the medicines supplied to hospitals and poor-law boards that the adulterator's art is most extensively and generally practised. The tinctures, ordered to be prepared with proof spirit, are commonly deficient in the requisite amount of alcohol; powdered drugs are seldom free from extraneous and worthless substances; and saline matters, such as the nitrate of silver, have occasionally their weight sensibly augmented by the

addition of cheaper matters. In Neligan's *Medicines and their Uses* all these kinds of adulterations are described, and, with few exceptions, the mode by which they may be detected is pointed out. In the earlier portion of the work the directions given are not so copious as in the latter part: and we notice that no stress is laid upon the frequent deficiency of alcohol in the tinctures, nor is there a ready mode of estimating the amount of that ingredient described; but these are trifling omissions.

The accuracy of the chemical and botanical descriptions of this New Edition is beyond cavil, and tends to place the work on a higher level than some other similar works which have recently emanated from the other side of the Channel. Thus, in a recent work on *Materia Medica*, it is stated that resins are more soluble in rectified spirit than in absolute alcohol; that gum Arabic is converted by the action of hot sulphuric acid into sugar of milk, and that strychnine enters into the composition of the notorious *Wourali* poisons. We need hardly say that all these assertions are egregiously wrong. Even in the recently issued second edition of a work by a really eminent authority on *Materia Medica*, the following curious statement is made:—

“Arseniate of soda heated to 300° loses 40·38 per cent. of its weight. A watery solution of 10 grains of this residue, treated with 5·3 measures of the volumetric solution of soda, continues to give a precipitate with the volumetric solution of nitrate of silver until 161·3 measures of the latter have been added, equivalent to 18·5 grains of arsenic acid.” We need not point out the error contained in this passage, it is sufficiently obvious; but we may remark that if it were found in the work of an Irish writer the trans-Channel critics would exclaim:—“What an Irish bull! to state that 18·5 grains of arsenic acid are contained in 10 grains of arseniate of soda!” Again, we are told in another book, entitled *The Chemical Processes of the British Pharmacopœia*, that in the preparation of arseniate of iron an equivalent of acetate of soda must be added, in order to form a basic arseniate of iron. Thus:—



The author believes that the addition of the acetate of soda is necessary to produce the basic arseniate of iron, but such is not the case; it is merely added to prevent the presence of free sulphuric acid, in which the arseniate of iron is soluble, whilst it is unaffected by free acetic acid. From such blemishes as the foregoing Neligan

and Macnamara's *Medicines and their Uses* is free—a fact which testifies to the extreme care with which it has been written and revised.

The plan of this work is singularly comprehensive, and yet extremely simple. Each of its subjects is complete in itself, and yet intimately connected with all the others. Its author does not rest satisfied with merely laying down so many isolated facts, nor with drawing up so many tables showing the constitution and properties of the substances upon which he treats: imbued with the ideas of harmony and unity, he not only supplies information on individual points, but this information has form and colour imparted to it by the relation in which it is placed. The separate items of knowledge are at once valuable in and by themselves, and so joined as to impart to and derive from each other all the advantages of harmonious combination; and we have, as a final result, a symmetric whole which cannot fail to recommend itself to the mind which loves not isolation of things or ideas. This is the highest praise which we can bestow upon this work: *quid plura?*

A Handbook of Uterine Therapeutics. By EDWARD J. TILT, M.D., &c. Second Edition. Churchills. 1864. Post 8vo, pp. 318.

THIS is the second edition of a work of which we did not notice the first in these pages, and that for various reasons, but chiefly because we so disapproved of the introductory chapter that on taking up the book on more occasions than one, we laid it aside unread. In the present edition this chapter has been re-written, the passages that so completely prejudiced us being omitted; and we have now read the book with care and pleasure, and have no hesitation in commending it to our readers as a most valuable compendium of uterine therapeutics—one full of practical suggestions not only for the efficient treatment of uterine diseases but for the adaptation of remedies to the various peculiarities, and even fancies and prejudices, of individual patients.

The work is divided into chapters, each devoted to the consideration of a class of remedies, such as, "Uterine Dietetics," "Antiphlogistic Treatment," "Sedatives," "Caustics," "Emmenagogues," "Uterine Orthopedics"—by this latter term the author means the

rectification of uterine displacements—"Hemostatics," "Tonics," "Treatment of Uterine Complications," "Treatment of Sterility," &c., &c. The several remedies coming under each of these heads are first described, with the best modes of application; then their "range of utility," and under this heading the author's pathological views are briefly expressed; then directions are given for the choice of the several remedies of each class, and cautions as to the evil effects to be guarded against in their use. We have already expressed our opinion as to the "range of utility" of the work, that it is a valuable compendium of uterine therapeutics; but, following the author, we must caution the readers that those who think by its study alone to be able to treat uterine diseases, will fail as completely as the students who trust to the study of a treatise on *materia medica* for learning the practice of physic.

Outlines of Surgical Diagnosis. By GEORGE H. B. MACLEOD, M.D., F.R.C.S.E., &c. London: John Churchill and Sons. 1864.

WHEN we inform our readers that the writer of this book is the author of *Notes on the Surgery of the War in the Crimea*, their expectations will probably be raised, and they will look for something beyond the common run of surgical writing. Such was our expectation on taking up this volume, and we feel bound to say that it has been fully realized.

The work is got up in Mr. Churchill's best style, and consists of 543 pp. 8vo. These are divided into—Introduction, pp. 65; the body of the work in the form of a surgical dictionary, and an index, which fully justifies the author in terming it (in the Preface) "a full and copious index."

The introduction treats of the importance of the art of diagnosis, of the difficulties in the way of its acquirement, and of various methods of investigating disease. Suffice it to say that this part of the book forms a complete essay in itself; and though it is of course mainly directed to the surgical side of things, yet physicians who act on the principles there laid down will be much more accurate observers than those who do not. Under head A. (Past History of the Patient) we find everything which ought to be

noted in investigating his or her family history; perhaps the most important matter to medical officers of life assurance societies. Personal history is also treated of with respect to temperaments, age, sex, occupation, habits, moral condition, and residence. Under head B. (Present Condition of Patient) there are what in Lord Bacon's time would have been called "essays" on the information obtained by sight, such as on form, colour, dimensions, relationship, direction, transparence, and movements. On the information obtained by touch, such as on consistence, temperament, movement, specific gravity, dimensions, connexions, and special characters. On information obtained by the ear, such as on auscultation and percussion in surgery. There are also similar "essays" regarding smell and taste, the circulatory, respiratory, nervous, digestive, and genito-urinary systems. All these are complete in themselves, and are followed by remarks on the instruments employed in the investigation of surgical disease. Here the author enumerates the peculiarities of various instruments. For example, under the head "Mouth and Throat," he describes Chassaignac's and Weiss's "speculum oris," as well as the specula oris of Ricord and Charriere. On a subject now attracting the attention of practical men he says, at p. 55:—"Laryngoscopes have been constructed of several patterns, the tendency being always to simplification. The instrument used by my friend Professor Czermak, in which the mirror is attached to the observer's forehead, has always appeared to me the most useful.^a

"Not only may the larynx throughout its length, but the trachea also, in a great measure, can be inspected by means of this instrument, so soon as the observer and his patient have become accustomed to its employment. In chronic diseases it is invaluable, and in some cases of acute disease it may be employed; but as a rule it cannot be successfully used when the pharynx, and upper part of the larynx, are in an irritable condition. For the investigation of morbid growths, affections of the vocal chords, and ulcerations of the larynx, and also for the examination of the posterior nares, it is invaluable, not only for the *positive*, but frequently for the *negative*, evidence it affords us in investigating obscure cases."

Dr. Macleod describes the "œsophagoscope" introduced by Lewin, of Berlin, and speaks confidently of the value of the

^a We beg to refer the reader to our review of Professor Czermak's work in Vol. xxxiv. (N. S.), p. 358.

ophthalmoscope. After describing the ear specula of Toynbee, Wilde, Avery, Weiss, Charriere, Harvey, Brunton, and others, he adds:—"It may, however, be remarked, that, as a general rule, expanding instruments are of little use, and that a simple reflecting tube usually fulfils all requirements. By fastening a small piece of wax candle in front of a bright metal spoon, a very convenient and easily-obtained 'speculum auris' may be obtained." Perhaps we might call this "Macleod's speculum," were it not that the gentleman in question would probably decline any association with a spoon.

We just note, in passing, the instruments described under these heads:—Nose; Vagina; Anus; Urethrosopes; Probes; Sounds; Bougies; Catheters; Exploring and Acupuncture Needles. The introduction closes with remarks on the chemical agents used in surgical diagnosis, and the diagnostic value of the effects of remedies.

The style in which this introduction is written we commend to medical writers of the "hazy" school. Dr. Macleod gives words their proper value, and no one can mistake what he says. The arrangement of the treatise proper is such as will, of course, raise many objections. The author candidly states in the preface that he adopted it as the best under the circumstances. We shall endeavour to give the reader some idea of the alphabetical arrangement as connected with the index.

The first word is "ABSCCESS (*abscedere*, to separate)—a circumscribed collection of pus (as contra-distinguished from purulent infiltrations.)" He then divides abscesses into, 1, acute, and 2, chronic, and shortly defines each. Under 1 we have the diagnosis of a *superficial* and of a *deep* abscess; also the diagnosis of an acute abscess from local œdema of cellular tissue in the neighbourhood of joints, or on the dorsum of the foot or hand, and from aneurism. We find, also, the diagnosis of chronic abscess, especially from lipoma, cysts and hydated tumours, hernia, soft cancer, aneurism, secretions, accumulated inducts, and protrusions of hollow viscera, containing fluids. Reference is made to "Hernia," "Soft Cancer," "Pelvic Abscess," and to the introductory remarks on fluctuation and pulsation.

Should the enquirer not find what he wants under "Abscess," he can then turn to that word in the index, and he will see references, *seriatim*, to outlines of diagnosis of abscesses in all parts of the body. Thus, *e.g.*, Abscess—"in shoulder-joint, 358."

These references, as the reader will judge, are to the word

"JOINTS," and thus the subject is presented in a double aspect; *i.e.*, as seen in a systematic treatise on diseases of the joints, and as seen in a monograph on abscesses. We could easily multiply quotations in illustration of the plan now under review, but what we have given is sufficient to show it. Any one who tries it will discover a *refreshingly* easy way of getting clear and concise information on a knotty point of practice, without wading through chapters of small type and double columns; and perhaps failing to catch the very thing wanted. The reduction of the mass of information before us to this form must have cost Dr. Macleod an untold amount of time and labour.

We beg to direct the reader's attention particularly to the following articles, as good types of the entire work:—Adenitis; Aneurism; Antrum; Arthritis; Balls (Musket); Bladder; Brain; Chancre; Dislocation; Fracture; Glanders and Farcy; Gunshot Wounds; Hernia; Mamma; Ovarian Dropsy; Scrotum; Spinal Cord; Syphilis; Testicle; Tumours; and Ulcers.

We shall transcribe one short article, and so let it describe itself:—

"GUNSHOT WOUNDS, APERTURES OF.—The distinction between the wounds of entrance and exit is not always attainable, even in favourable circumstances. It is before inflammation, with its swelling and effusion, sets in, that the following characters will be most easily recognized; yet the shape of the projectile, and the speed of its flight in passing through the tissues, will cause these features to vary considerably. The establishment of inflammation will, in many cases, efface the marks of distinction; and if the ball is fired near at hand, and pass with great force and speed through the part, there may be no appreciable difference. In some cases the usual features may be even reversed. The greater the speed, "*ceteris paribus*," the less the difference. Further, putrefaction obliterates the distinctions below noted.

"It is in the case of round balls passing at moderate or low speed that the characters distinctive of the wounds of entrance and exit become appreciable.

"*Entrance Wound.*

"*Exit Wound.*

"1.—*Size.*

"Same as or smaller than the ball. "Larger than the ball.

"2.—*Shape.*

"Regular, round or oval (triangular if ball conical.) "Irregular, flap-like tearing.

*“Entrance Wound.**“Exit Wound.**“3.—Lips.**“Inverted more or less.**“Everted more or less, and protrusion of subcutaneous fat or shreds of tissue.**“4.—Surrounding Parts.**“Considerably discoloured (sometimes by powder); may be dark, or even livid. From conical balls in full flight there is, however, seldom much contusion.**“Little discoloured and bruised.**“5.—Loss of Substance.**“Part of the skin removed, and carried into the wound.**“None in the first instance.*

“If the ball has been flattened against a bone within the body before escaping, it may give to the exit wound much irregularity; and if the ball carry in a foreign body with it, the entrance wound may be much larger than usual, and variously shaped. The splitting of a ball within the body and its escape in portions will further vary the relative characters of the apertures. Occasionally an examination of the clothes will enable us to recognise some of the features of the two wounds above described, when they have been effaced from the tissues. The cicatrix of the wound of entrance, from there having been a loss of substance, is well marked, white and depressed, and often adherent; while that of exit is small, frequently a mere irregular non-adherent spot, if there has been no more destruction than that caused by the ball itself.”

Though the preceding specimen is selected for its brevity, yet it will not diminish the interest of the reader if he recollects that Dr. Macleod must be looked on as a specialist in the matter of gunshot wounds, by reason of his very extended experience during the Crimean war.

The author is very plain and concise on the diagnostic importance of the double impulse in aneurism; indeed, his definition of the disease is so “ready, cut and dry,” that we subjoin it:—

“Aneurism (ἀνευρενω, I dilate or open), a tumour containing blood in connection with an artery.

“Distinguished into (a) ‘spontaneous’ and ‘traumatic,’ according to whether it has resulted from a wound or not; (b) ‘true’ and ‘false,’ according to whether there be a containing sac, formed of the coats of the vessel. ‘Arterio-venous’ aneurisms are formed, as their designation implies, partly by an artery and partly by a vein.”

We wish particularly to notice the article "BRAIN," in which, and in many others—*e.g.*, "DISLOCATION" and "FRACTURE"—the symptoms of two affections which might be confounded are set down in parallel columns. We now refer to the diagnosis between compression and concussion.

Thus, the temperature in compression is said to be "natural or increased," as opposed to that in concussion, which is defined as "lowered (collapse)." Again, the respiration in compression is "slow, deep, frequently stertorous and blowing," as opposed to that in concussion where it is "feeble, sighing (rarely stertorous)." In like manner we find the mode of establishing the diagnosis between the "'simple,' 'non-infecting' chancre, the 'chancreoid' of Clere, 'chancre mou,' and 'the infecting,' 'indurated,' 'Hunterian' chancre." The diagnosis of certain dislocations from certain fractures is laid down with a full clearness not often met with; indeed, after reading them over, one is led to wonder how a person *could* mistake anything of this kind. Dr. Macleod has figuratively broken every bone and dislocated every joint in the body, and no one need look for any more information in the diagnosis of fractures and dislocations than he can find in this book; while the amateur in skin diseases will find a complete monograph on the diagnosis of the syphilides in the *multum in parvo* headed "SYPHILIS, CONSTITUTIONAL."

Perhaps the best—if there be a best—article in this book is that on "TUMOURS." After some twenty-two pages of diagnostic matter, which it were futile in us to attempt to describe, the essay in question concludes thus:—

"In conclusion, then, it may be observed, that innocent and malignant tumours may grow in many organs and tissues; but that certain tumours affect certain parts more than others, and it may be useful, as a step towards their recognition, to epitomise in a general way the different growths which are most apt to appear in the various regions and organs.

"*Scalp*.—Non-congenital cutaneous cysts.

"*Orbit*.—Serous, sanguineous, and cutaneous cysts; medullary cancer.

"*Antrum*.—Cysts, fibrous, recurrent; fibroid, cartilaginous, osseous, fatty, fibro-cellular, myeloid, erectile, encephaloid tumours.

"*Gums*.—Serous and sanguineous cysts; myeloid, fibrous, and cancerous tumours.

"*Lip*.—Serous, sanguineous, and proliferous cysts; epithelial cancer.

"*Tongue*.—Mucous, serous, sanguineous, and cutaneous cysts; erectile, fatty, fibrous, fibro-cellular; medullary and epithelial tumours.

“*Jaws*.—Cutaneous and dentigerous cysts; fibrous and myeloid tumours.

“*Neck*.—Serous and sanguineous cysts.

“*Lymphatic Glands*.—Cancer in all its forms.

“*Parotid*.—Serous and sanguineous cysts; cartilaginous, fibrous tumours, and medullary cancer.

“*Thyroid Gland*.—Serous, sanguineous, colloid, and proliferous cysts; myeloid and glandular tumours.

“*Skin*.—Fibro-cellular out-growths, epithelial disease, and scirrhus.

“*Sub-cutaneous Tissues*.—Serous, sanguineous, and proliferous cysts; fibro-cellular, fatty, fibrous, cartilaginous, myeloid, and vascular tumours; medullary and osteoid cancers.

“*Inter-muscular Spaces*.—Proliferous cysts, fibro-cellular tumours, medullary cancer.

“*Mamma*.—Serous, sanguineous, oily, colloid, and proliferous cysts; cartilaginous (rare), myeloid, glandular, and fibrous tumours; hard, soft, epithelial, and colloid cancer.

“*Labia*.—Cysts and epithelial cancer.

“*Testicle*.—Serous, sanguineous, seminal, and cutaneous cysts; fibro-cellular tumours and medullary cancer.

“*Prostate*.—Proliferous cysts, scirrhus, and medullary cancer.

“*Scrotum*.—Fibro-cellular tumours, epithelial disease.

“*Spermatic Cord*.—Sanguineous and seminal cysts, and soft cancer.

“*Uterus*.—Fibrous and myeloid tumours, and medullary and colloid cancers.

“*Ovaries*.—Serous, sanguineous, cutaneous, proliferous, and dentigerous cysts; scirrhus and soft cancer.

“*Bone*.—Serous and sanguineous cysts; fibrous, cartilaginous, myeloid, and osseous tumours; scirrhus, medullary, and osteoid cancer.

“*Muscle*.—Various cysts, scirrhus.

“*Nerve*.—Cysts, fibrous tumours, soft cancer.

“*Mucous Membranes*.—Mucous cysts, epithelial disease.

“*Rectum*.—Fibrous, fibro-cellular, and fatty tumours; and scirrhus, medullary, and epithelial cancers.”

We have now endeavoured to give a general idea of Dr. Macleod's book, of which, from the nature of its arrangement, a more or less complete analysis is impossible, at least within the restricted limits of a review. Were unlimited space allowed us our difficulty would be, not what to insert, but what to omit. In plain terms, then, we congratulate Dr. Macleod and our profession on the appearance of this book; and we confidently predict for it a place among our surgical classics; for the well-read student, the surgical teacher, and

the busy practitioner, will soon learn so to use as not to disuse it. We have not criticized theories and points of practice, because it mainly deals with the *facts* of diagnosis; and while it contains what is true, whether new or old, it does not steal the results of other men's toil, but shows how one, who has been an "earnest student," as well as a practitioner in and teacher of surgery for several years, can set before his profession an original book.

1.—*A Treatise on Fever, being Part of a Course of Lectures on the Theory and Practice of Medicine.* Second Edition. By R. D. LYONS, K.C.C., M.B., F. and C. K.Q.C.P.I., &c. London: Longmans. 1864.

2.—*A Handbook of Hospital Practice, or an Introduction to the Study of Medicine at the Bedside.* Second Edition. By the same Author.

THESE are second editions of books already well known to the profession, and have been brought out in a low-priced form so as to place them within the reach of all students. The *Treatise on Fever* was noticed in these pages at considerable length, and in very favourable terms, on the appearance of the first edition. The *Handbook of Hospital Practice* is equally worthy of commendation. Its mission is an important one—to teach students how to study medicine at the bed-side. It is well fitted for its purpose, and most heartily we wish it good speed.

1. *The Royal London Ophthalmic Hospital Reports and Journal of Ophthalmic Medicine and Surgery.* Edited by J. C. WORDSWORTH, J. W. HULKE, and J. HUTCHINSON. Vol. IV. Part II. London. 1864. John Churchill.

2. *The Ophthalmic Review, a Quarterly Journal of Ophthalmic Surgery and Science.* Edited by J. ZACHARIAH LAURENCE and THOMAS WINDSOR. No. 1, April, and No. 2, July, 1864. London: Robert Hardwicke.

3. *Journal of British Ophthalmology, and Quarterly Report of Ophthalmic Medicine and Surgery.* Edited by JABEZ HOGG. London: John Churchill and Sons. No. 1, October, 1864.
4. *Glaucoma and its Cure by Iridectomy; being Four Lectures delivered at the Middlesex Hospital.* By J. SOELBERG WELLS. London: John Churchill and Sons. 1864.
5. *Vorlesungen über den Gebrauch des Augenspiegels.* Von Dr. C. SCHWEIGGER. Mit 21 Holzschnitten und 3 Tafeln. Abbildungen. Berlin. 1864.
6. *The Ophthalmoscope, its Varieties and its Use.* Translated from the German of Dr. ZANDER by R. B. CARTER, F.R.C.S.Eng., with Notes and Additions by the Translator. London: R. Hardwicke. 1864.

IN bringing before the reader's notice some of the more recent contributions to ophthalmic literature we would direct their special attention to the sudden appearance of no less than two new quarterly journals, devoted to ophthalmic medicine and surgery.

At a meeting of the Medical Council of the Royal London Ophthalmic Hospital (better known as the Moorfields Hospital), in August, 1857, it was determined to issue a periodical record of ophthalmic observation and experience, which should contain practical papers, monthly reports, &c., but which should not contain reviews, correspondence, or anonymous publications. It will be seen in the sequel that these exceptions were made not without reason. The Reports were at first published quarterly, and then at more uncertain periods, and at last it was generally believed that their publication had come to an end; indeed, if we remember rightly, an announcement somewhat to this effect appeared in the *Annales d'Oculistique*. However, the publication of this valuable journal had not ceased, it was only suspended, and in 1863 it again made its appearance, edited as above, the numbers to make their appearance from time to time, as suitable materials may accumulate, and each number to be sold at the lowest price, which (in addition to the fees of the surgeons that are devoted to the support of the journal) will cover the expense of publication. The latest number is first on our list for notice. It contains, among other original contributions, W. Bowman "On Needle Operations in Cases of

Detached Retina," G. Critchett "On a Case of Congenital Cataract Treated by Iridesis," in which some modifications were introduced into the operation; J. W. Hulke, "A Tabular Review of 106 Cases of Squint treated by Operation;" ninety-nine were cases of convergent squint. The casual relation of hypermetropia and convergent squint, discovered by Donders, is strongly confirmed by the figures in the refraction column, where H.m. appears forty-three times, a frequency more than sufficient to show the existence of a very intimate connexion between it and this form of squint; moreover, had it been noted in the earlier cases (fifty-three in number) the total frequency would have reached about ninety per cent. This table of Mr. Hulke's is a most important one, and we hope this subject will receive the attention it deserves. J. Hutchinson, "Cases Illustrating the Connexion of the Fifth Nerve with the Nutrition of the Eye-ball." The translations in this number are all from the *Archiv für Ophthalmologie*, executed by Mr. Soelberg Wells, and are eminently practical; indeed, our best thanks are due to the translator (who is not destitute of some original ideas) for giving us in English Von Gräfe's Memoirs on "Compressive Bandages," and on "Perforation of the Detached Retina," and "Division of Membranous Opacities in the Vitreous Humour."

Whether, from the irregular appearance of these Hospital Reports, or from the fact that they never reviewed or criticised recent writings, we know not; but it soon became apparent that there was room for an ophthalmic journal, to appear at stated periods, which should take the place in the country of the well-known and widely-appreciated *Annales d'Oculistique*, and so, in April last, was published the work that appears second on our list, under the editorship of Mr. Z. Laurence and Mr. Windsor. We confess our sympathies go very much with this journal, which is, we believe, but supplemental to the Ophthalmic Hospital Reports. There certainly need be no spirit of rivalry between them. The papers in the first number are Professor Zehender on the Form of Cataract Knives; Mr. Windsor, Iridectomy as a Method of Forming an Artificial Pupil; Von Gräfe on the Calabar Bean; Dr. A. Mooren on Retinitis Pigmentosa; R. C. Moon, Cases of Paralysis of Accommodation treated by the Calabar Bean; Retrospect of British and Foreign Medical Journals, so far as they relate to Ophthalmic Surgery. This retrospect is of the utmost value; we venture to assert that it is one of the most important contributions to the review, and we trust it will be on no account discontinued.

The author appears to us to pay just as much attention to the contributions of British as of Continental contributors, although for these latter he has to search through a much more extensive literature. Reviews of English Ophthalmic literature. The notices of the works of Rainey, Hulke, and Hogg, are, perhaps, more criticisms than reviews. Little mercy is shown when mistakes or blunders are detected; but, with all, we cannot but recognize the fact that these notices, even that on Mr. Hogg's book, caustic though it be, were written by a scholar and a gentleman. A notice of Liebrich's Ophthalmoscopic Atlas concludes this number. That for July contains four original articles:—Dr. Roseburgh, of Canada, on a New Ophthalmoscope for Photographing the Fundus Oculi; J. Z. Laurence on Some Ophthalmic Instruments, with Figures of the New Instruments, the first of which is a strabismometer; this is a very useful and cheap instrument, of which Dr. Liebreich writes that it is both convenient and efficient; a coreometer for measuring the pupil; an instrument for measuring the axis of astigmatism; and lastly, a meniscus ophthalmoscope. Von Gräfe, A Clinical Lecture on Exophthalmus; Mr. Windsor, Notes on the terms Sclera and Sclerotica; while we have no doubt that the more ancient, and perhaps more correct form, is sclera; still, we fear it will require some time to introduce this word into our British schools. Although much used in Germany, it is a word hardly known in Great Britain. Retrospect and Reviews.

The Journal of British Ophthalmology, we are told in the preface, is published for a special purpose, viz., "to be a *fair and impartial* exponent of the views and practice of English ophthalmic surgeons," because, up to the date of its publication, there was "no truly national organ of discussion in which native worth is allowed *fairly* to compete with foreign genius and pretensions." We confess, that as far as medicine and surgery are concerned, we are not nationalists; indeed, we might go further, and assert that any tendencies in this direction ought to be suppressed, as being both dangerous and improper. Surely, if the physician or surgeon of any nation makes any important discoveries, we of another nation, are not to stand aloof, glorifying ourselves, instead of making use of all modern improvements that may benefit our patients. If there be native worth amongst us, it is certain to succeed, no matter what competition it encounters with foreign genius. But there is another way to view this matter, and it is this:—If this new journal is to be the exponent of the views and practice of a section of the British

school; though even this we consider mischievous, as tending to to promote illiberality; and if it did nothing else, it would do comparatively little injury; but from this first number we fear that while seeking to be the exponent of a native school, it proposes in addition to be the antagonist of all others; that while it will give prominence to and extended notices of the additions constantly being made in this special department of the profession, among some of our own countrymen, it will cry down and use harsh language to those who wish to introduce to us the ideas or the practice of the many distinguished strangers who are spending their lives in advancing ophthalmic surgery, and that it will make a butt of those who, as pupils of these illustrious men, strive to extend somewhat their master's fame.

We proceed to notice the contents of the first number of this new journal, and without indulging in any controversy, will show our reasons for making the foregoing remarks. The first article is headed "British v. German Ophthalmologists—Iridectomy and Section of the Ciliary Muscle." We have gone to the trouble of reading this article twice through, and we believe that it would have been infinitely more creditable to the journal if its editor had written a juster, more truthful, and less jealous introductory preface. Few persons are alluded to in it by name; but the allusions are perfectly transparent, and the burden of the whole song is:—"It offends our national susceptibilities to suppose that while clouds of darkness rest upon British ophthalmology a bright and guiding sun makes day over all the rest of Europe." Such remarks we would style childish, were it not for their mischievousness. It is in the very nature of things that a prophet should have honour, save in his own country and among his own kin; and if it offends the conductors of this journal of British Ophthalmology to hear the names of Gräfe, Donders, Arlt, and many others, extolled in London, we can only remind them that it certainly does not offend the editors of the *Archiv für Ophthalmologie* or the *Annales d'Oculistique* to hear in Berlin or Brussels the well merited praises of the venerated Mackenzie, of Bowman, Critchett, Haynes-Walton, and many others. Why, indeed, should it not be so; and why should it be sought to divide public opinion into two cliques in this country. One set who refuse to believe that any good thing can come out of Germany, and another who believe there is very much of what is excellent to be found in Germany as well as in this country; if such a division must take place, we will

enrol ourselves at once in this latter division. We now proceed to give one or two extracts from this notice, so that our readers may judge of the very questionable taste of the whole article. The italics are our own:—

“It appears, when a man of mark determines no longer to labour in the field of original research, he cunningly provides for the void in scientific intelligence the absence of his communications cannot fail to create. He discovers in some recent theory or new operation promulgated abroad—generally in Germany—the long-sought-for desideratum or certain cure for those particular diseases, to the study of which he has specially devoted himself. Ample opportunities of experiment and illustration being afforded in the *perverted practice of his own hospital*, forthwith a series of successful cases, accompanied with laudatory notices of the *great original source of inspiration and information*, for some time burden the pages of the periodical press. At length, with the greatest apparent candour, with no little expressed zeal for the public welfare, and, (were it not proved to be most profitable), with an amount of self-sacrifice otherwise unimaginable, *the astute schemer* frequently succeeds in imposing upon professional opinion at home, some obscure Continental professor as the greatest living authority upon the subject referred to. In this manner several very useful objects are secured by one cast of the net. For instance, no more studious thought or scientific drudgery is required. Where opinion is thus surrendered to another’s inspiration, every ‘shining hour’ may be sedulously improved in taking fees. By selecting also a distant, transmarine authority, the complimented and approved master is a long way beyond competition in private practice. Another part of the system pursued is to select a *convenient professional friend* in important cases, among the wealthy classes, without the necessity of calling or meeting in consultation *some obnoxious neighbour*, who, of one’s own knowledge, is possessed of unquestionable tact and ability. Nor is there any substantial loss of previous personal reputation incurred by this ostentatious worship of foreign genius, for beyond a contracted scientific circle the merits of the questions involved are little discussed, and to the general public the obtruded name is, of course, a mere tub to a whale, diverting attention from native talent and national character, which is the real sacrifice intended to be made on the altar of selfishness.

“Another result of this vicious system of invoking assistance from the Continent to supply poor England’s alleged want of knowledge, has been to create a number of *little cliques of second and third rate men*, each swearing by the standard which caprice or opportunity has led them to select and set up from among the heaven-born geniuses, whom it is all at once discovered, the present age has been so prolific in producing

everywhere else but at home. Almost every Ophthalmic Hospital in London has its representative hero-worshipper of operations and instruments drawn from that teeming land of mesmeric dreamers—Germany. Each institution has also a *staff of clinical assistants waiting to carry out their seniors*, and after burying them decently, weeping, of course, over their graves, hoping to step into their carriages, on the strength of having sat long and patiently at the feet of the well-known popular practitioners. These young men are generally selected in the first place with a most careful regard for future contingencies. Self-reliant genius never has a chance, and any striking ability is an obvious disqualification. To be *respectably connected*, however, is very necessary, and to possess the plodding industrious habits of the model student without any recommendation of mind is another earnest of success. Docility and devotion to their chief are also, indispensable qualities, which always ensure his friendship, and no inconsiderable amount of the crumbs that fall from his overladen table.”

We would ask, what greater benefit can be bestowed upon the general practitioner than by translating the more important memoirs of continental writers into English? and we would then inquire if the following sneer is just or amiable:—

“The field of home produce being thus effectually discouraged, second or third-rate men, without an original idea, find in translating the works of foreign writers, just the opportunity they most desire of advertizing the public that they have really perpetrated a printed book, and have an account with a publisher. Of course, they are far from being displeased with a state of things which affords them an opportunity so flattering to their conceit and gratitude to the master mind, to whose artful policy the situation is due finds expression in a continual reference of doubts to his decisive *dictum*; which, materially strengthening his position in the opinion of the outside world, thereby makes more formidable any opposition he may offer to the general recognition of newly-discovered truth. Moreover, for their own protection, the third-rate pretenders to knowledge, whose claims for credit and distinction as ophthalmic surgeons chiefly rest upon translations of foreign books upon the subject, labour most assiduously in extending a popular belief in the total absence of any trustworthy English professional authority, while it seems impossible for them to say too much in exaggerated praise of Continental writers; many of whom, we suspect, must be very much surprised, and quite unable, themselves, to account for the proud position they have thus so easily achieved in the reputed head quarters of civilization and science.”

The writer next demurs to a statement^a of Mr. Windsor's, "That German ophthalmology has especially distinguished itself of late by the attention it has paid to the anatomy and physiology of the organ of vision, &c. Hence the English reader, who is necessarily more or less unacquainted with these recent discoveries, must expect to meet with many and great difficulties." Now, while the German writers would be the last in the world to pass over the labours of such men as Jacob or Bowman, Young and Airy, yet it would be very wrong for us not to acknowledge that the Germans have been very far before us of late years in all that concerns the anatomy and physiology of the eye.

Into the iridectomy question we will not enter; whether Graefe's or Hancock's operation will be "ultimately the settled universal practice," we will not venture to decide; personally, we have as little doubt on the matter as the writer; and in spite of the dire allusions to the quotation in page 13, we would sum up the subject by the following quotation from one whom even the writer of this introductory notice to this new journal calls "gifted!"^b and assert that "humanity urgently requires that prejudice and ignorance should no longer oppose the use of iridectomy or glaucoma."

The original contributions in this number are:—J. Nottingham—Cancer of the Eye-ball; H. Hancock—Strumous Ophthalmia of Children; this is an interesting paper, and will well repay perusal; it is to be completed in the next number: Henry Wilson—Vascular Tumour of Cornea, with woodcuts: Dr. Graseman—A case of Cataract: Dr. Garstang—A Case of Staphyloma Cornea: Spencer Watson—On the Physiognomical Aspect of Certain Diseases of the Eye: Jabez Hogg—On the Value of Belladonna in the Treatment of Iritis: Reports of the Norfolk and Norwich and of the Royal Westminster Ophthalmic Hospitals: Reviews—Jago on Entoptics, and Donders on Accommodation: Retrospective Ophthalmological Literature: Answers to Correspondents. We are surprised to find these answers to correspondents made the medium of some very disgraceful attacks on professional men; so disgraceful that we were astonished to find such in a work with the Messrs. Churchills' name on the

^a Introductory Notes to Graefe's Memoir on Iridectomy, New Sydenham Society. 1859.

^b Donders on the Accommodation and Refraction of the Eye. Translated by W. D. Moore, M.D. New Sydenham Society. 1864.

cover as its publishers. Mr. Laurence is styled throughout one of these answers as "Zachariah." Some story (we know not its merits) that took place in 1857 is most conspicuously brought forward, and it goes on:—"We take this opportunity of saying that in our case it appears *he hired a Mr. R. B. Carter*, of Stroud, to pen the ungentlemanlike note" (we presume this is an allusion to some review). "*Of this person* (Carter) we merely wish to remark, for the information of our readers, that he looks upon himself as 'the coming man,'" &c., &c. And, again, in answer to a Mr. Johnston we read:—"We have not seen the book; but have been told it is a mere puffing translation of a tradesman's illustrated catalogue of German ophthalmoscopes." How unfair all this is, will be seen towards the close of this notice; how wrong this nasty low style of writing is, we leave it to our readers to determine. We have been thus particular in calling their attention to this journal because we feel sure that if it be conducted in the manner we have noticed it will be anything but creditable to the profession.

The four lectures on glaucoma, and its cure by iridectomy, were delivered at the Middlesex Hospital by Mr. J. Soelberg Wells. We would recommend these lectures strongly to any medical practitioner or senior student, who wishes to be able to recognise the symptoms which this disease may exhibit in its different forms and stages; he will find in them the prognosis which may be given as to the beneficial effects of iridectomy, and very simple and well illustrated directions as to how to perform the operation. Those who wish for more detailed information must consult Haffman's paper on glaucoma in the *Archiv für Ophthalmologie*, Band VIII., Abth. 2; or Gräfe and Bowman's memoirs. But these four lectures will serve all practical purposes, and we would advise all medical students to make themselves acquainted with their contents.

Dr. C. Schweigger's lectures on the use of the Ophthalmoscope are based on an extensive series of observations made while one of the assistants of Von Gräfe's eye clinique; so that, although there is a good deal in them that every ophthalmic student will be at once familiar with, yet even the most elementary facts are conveyed in a pleasant and agreeable way, and many of the observations are both original and instructive. The lectures are nine in number:—1. Optical Introduction; 2. Aut-ophthalmoscopy; 3. Examination with the Ophthalmoscope; 4. Examination of the Refracting Media; 5. Diagnosis of the Anomalies of Refraction; 6. Examination of the Fundus Oculi; 7. Alterations in the Choroid; 8.

Alterations in the Retina; and, 9. Alterations in the Optic Nerve. These lectures are illustrated by twenty-one woodcuts and three lithographs.

For those who are not very familiar with the German the last book on our list will be most acceptable. Zander's *Ophthalmoscope, its Varieties and Use*, is one of the very best works on the subject; indeed, no better work could have been selected by the energetic publisher of this volume to introduce to the English reader, and few men in this country were more capable of translating and editing it than Mr. Carter.

With this volume and Liebreich's *Atlas* the practitioner will not require any other work to give him a correct idea of the varieties of the ophthalmoscope, of its uses, and of the ophthalmoscopic appearances of healthy and diseased eyes; almost all the varieties of the ophthalmoscope are not only described but figured. In regard to the choice of an instrument, Mr. Carter adds in a note:—"Until lately I should have agreed that Liebreich's small instrument is the best for the inverted image. Lately, however, the contrary testimony of very skilled observers has induced me to investigate the question with more care, and to compare the performance of different ophthalmoscopes upon eyes well adapted for testing them, and I have come to the conclusion that my former preference was the result of habit, and that the best ophthalmoscope for the inverted image is, beyond all question, that of Coccius. It illuminates the fundus somewhat less brilliantly than Liebreich's, but more uniformly; it is less interfered with by reflections of the mirror from the cornea, and by images of the flame upon the retina of the eye examined; it affords better definition, and permits the use of a higher magnifying power. Lastly, though inferior to Zehender's for the erect image, it yet shows it very fairly, and in a manner far superior to Liebreich's." In reference to the larger fixed instruments we think it useful to give the following advice of the translator:—"Such instruments should be obtained only from English makers; the foreign ones that I have seen have been at once dear and bad; the threads of their screws are always defective; the parts that should be steady quiver and shake; the parts that should glide easily stick fast; the parts that should be immovable slide downwards in tardy and reluctant obedience to the law of gravitation. By the time that all the faulty parts have been replaced in this country the instrument will be far more costly than one originally of English construction, made to work as smoothly and

easily as a microscope from the first." We have found this advice to be perfectly correct, and would recommend the reader not to trouble himself learning the truth of it by experience, the more especially as we believe there will be no difficulty in obtaining these instruments from any of the first-class London opticians.

If space permitted we would gladly give many extracts from the second section of this book; but it will suffice to state that the beginner will find in it every needful instruction as to the use of the Ophthalmoscope, no matter how elementary, that he could need; and in the many places in which the treatise of Dr. Zander was somewhat behind the knowledge of the present day, he will find the appended notes of Mr. Carter leave him nothing to be desired. The third and fourth sections are directed to the ophthalmoscopic appearances of healthy and diseased eyes, references to Liebreich's *Atlas* being always added. The fifth section considers the ophthalmoscope in its relation to forensic medicine. The sixth, which is added altogether by the translator, is on the influence of the ophthalmoscope upon the treatment of disease. We have thus very cursorily alluded to the chief contents of this volume, which is illustrated by numerous woodcuts and three coloured lithographic plates; and, in conclusion, we feel warranted in asserting that it is by far the best practical guide to the use of the ophthalmoscope that exists in our language.

1. *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques.* Illustré de Figures intercalées dans le texte. Directeur de la Rédaction, le DOCTEUR JACCOUD. Tome premier, 1^{ère} et 2^{ème} Parties. A—Amb. Paris: Baillière et Fils. 1864. 8vo, pp. 811.
2. *Dictionnaire Encyclopédique des Sciences Médicales.* Publié sous la direction de MM. les DOCTEURS RAIGE-DELORME et A. DECHAMBRE. Tome premier, 1^{ère} Partie. A—Acc. Paris: Asselin. 1864. 8vo, pp. 400.

THE *Dictionnaire de Médecine*, published in thirty volumes, and of which the second edition appeared in 1832, has, till the present day, maintained its position as a standard work, and has not only served

as a model for other dictionaries and cyclopedias, but has, perhaps, furnished materials for some of them to a greater extent than has been duly or fully acknowledged.

From 1832 till 1864 has, however, been a period of great progress both in medicine and its allied sciences, so that it has become necessary our works of reference should be rewritten to take due notice of the advances made during this period; and we have now before us the first numbers of two works evidently intended to compete for the position hitherto so worthily occupied by the *Dictionnaire de Médecine*.

Of the *Nouveau Dictionnaire*, which stands first on our list, we have received two numbers, or demi-volumes, completing the first volume, and comprising altogether 811 royal octavo pages, and it is announced that the work will be completed in from twelve to fifteen such volumes. It is brought out under the direction of Doctor Jaccoud, who translated Graves' *Clinical Medicine*, and who is, we have reason to know, thoroughly familiar with the medical literature of other countries as well as his own, and who promises to seek for light everywhere that it may be expected to be found. The articles are monographs by various contributors, whose names are attached; to each article a more or less extensive list of bibliographical references is appended. In the volume before us the principal articles are:—"The Introduction, by Jaccoud; Abcès, by Laugier; Abdomen, by Dénucé and Bernutz; Absorption, by Bert; Acclimatement, by Jules Rochard; Accommodation, by Liebreich; Accouchement, by Stoltz and Lorain; Acné, by Hardy; Adhérence, by Alfr. Fournier; Ages, by Lorain; Agglutinatif, by Gosselin; Agonie, by Jaccoud; Aine, by Kœberlé; Air, by Buignet A. Tardieu and J. Roshard; Aiselle, by Bæckel; Albuminurie, by Jaccoud; Alcoolisme, by A. Fournier; Aliment, by Oré; Alopécie, by Hardy; Amaurose, Amblyopie, by Liebreich; Ambulances, by Sarazin, etc."

The second work on our list, the *Dictionnaire Encyclopédique*, as its name implies, aims at a more extensive range than its rival. Brought out under equally distinguished editors, it also appears in demi-volumes, of which we have received the first, consisting of 400 pages; and we learn that the second number, finishing the volume, is well advanced towards completion. The entire work is expected to comprehend from twenty to twenty-five volumes, and will also consist of a series of monographs signed by the authors. In the number before us we perceive that, in addition to articles

parallel to those contained in the *Nouveau Dictionnaire*, we have biographical memoirs of eminent members of the profession of all countries, with lists of their writings; descriptions of mineral waters, and of health resorts; full sketches of the natural history and botanical characters of substances used in medicine; and anatomical, physiological, and chemical essays. The articles generally are of an exhaustive character—a description that applies, indeed, to both of the works, though the *Nouveau Dictionnaire* aims more exclusively than the other at the purely practical. We may, however, best display their respective characteristics by giving a brief sketch of an article from each.

Albuminuria is the subject of an article in the *Nouveau Dictionnaire*, from the pen of its editor, Dr. Jaccoud, and is not only a good specimen of the work, but is one of the best papers on the subject that we remember to have met with. It opens by defining the disease as a disorder of the renal secretion, characterized by the presence of albumen in the urine; in this way separating, under the head of pseudo-albuminuria, all those cases in which the albumen is added to the urine in its course from the kidney, after it has been secreted. Dr. Jaccoud next passes in review the theories of Bowman and Ludwig as to the mode in which urine is secreted, and rejects Bowman's idea that the corpora Malpighiana merely pour out the water of the urine, the salts being secreted by the epithelium of the tubes, in favour of Ludwig's view that all the urine is secreted by the Malpighian corpuscles as by a process of elective filtration, though in a very dilute state, and that the excess of water is absorbed in its passage through the tubuli uriniferi. Whichever theory may be adopted, and we do not coincide with Dr. Jaccoud in his preference for that of Ludwig, the process of urinary secretion, must be regarded as subordinate to the three following conditions:—

“A normal distribution of the generating liquid—that is to say integrity of the mechanical conditions of the renal circulation.

“A normal constitution of the generating liquid—that is to say integrity of the blood.

“A normal constitution of the filter—that is to say of the renal gland.”

Albuminuria must depend on a disturbance of one or more of these conditions; but to embrace all forms it is necessary to have a mixed class—and Dr. Jaccoud proposes four divisions:—

“I.—Albuminuria by modification in the mechanical conditions of the renal circulation.

“II.—Albuminuria by alteration of the blood.

“III.—Albuminuria by alteration of the blood with renal lesions.

“IV.—Albuminuria by renal lesions.”

I.—Both physiological experiments and pathological observations show that albuminuria may be produced by alterations in the mechanical conditions of the renal circulation; and under this head Dr. Jaccoud describes the albuminuria:—

Of *pregnancy*—except the rare cases in which it occurs during the four first months, when it depends on a different cause.

Of *disease of the heart* when it is caused by the increased pressure of the blood on the renal capillaries.

Of *paludal fevers*, that is when occurring early in the fever, and in the cold stage, and caused also by the pressure of congestion; but when occurring in the cachectic state induced by the long existence of the fever, it belongs to another class.

The albuminuria of *cholera* belongs to the same class.

Nervous albuminuria.—This, which concludes the first group, is a variety that is scarcely established. The name is given to the albuminuria that succeeds to an irritation of certain points of the central or peripheral nervous system. The vaso-motor nerves being paralyzed the small arteries become dilated and the albuminuria is the result of the increased pressure on the renal capillaries. An erroneous interpretation of experiments of Schiff and Ludwig has given rise to a premature theory attributing this form to three sources—injury of the renal nerves, of the splanchnic nerves, and pricking of the fourth ventricle; but of these the last alone has been proved.

It is important to know that of all diseases the neuroses are those that are most rarely accompanied by albuminuria. This is particularly true of epilepsy, and is an important diagnostic between this and puerperal eclampsia.

II.—*Albuminuria by Alteration of the Blood*.—It is this class of albuminurias that Dr. Jaccoud tried to establish, in a book published in 1860, and since then its position has been confirmed, but the existence of renal lesions in a great many cases where they had not then been observed, has since been shown, therefore he now makes two classes—one where there is modification of the blood only, with which we have now to do, and a class where this is combined with renal lesions.

In healthy blood albumen exists in various forms, both in the

serum and in the globules. In the serum it is found in a free state, also in combination with alkaline salts, chiefly soda, forming with this latter various definite compounds, such as the neutral, basic, and acid albuminate of soda. In red globules it exists in an entirely different molecular form, as shown by its power of crystallization, discovered by Funke; and in the white globules it is in combination with fatty matters and salts.

It has been shown, by the experiments of Willibald Schmidt, of Brücke—of Botkin, and of others, that albumen can pass or filter through animal membranes, and that in this it is affected by two influences—pressure, and the degree of concentration of the liquid itself. It has also been shown, by the experiments of Bernard, that the injection of a certain quantity of liquid albumen into the blood causes albuminuria; and it has been found that this may last several days, and that a much larger quantity of albumen escapes than had been injected. It has been shown, further, that all forms of albumen, when injected, do not act in the same way; that the albumen of egg will produce albuminuria, but that that of serum will not, so that it is impossible to attribute the effects produced by the injection to the increased vascular tension, as the effects vary with the species of albumen injected; and it has been shown that the exclusive use of albuminous food in some forms, though not in others, will produce albuminuria. It is thus shown that an increase in the quantity of the albumen in the blood will cause it to escape by the kidneys; and it further appears, from certain experiments referred to by Dr. Jaccoud, that alterations in the molecular condition of the albumen in the blood will have the same effect, though the quantity of it may not be increased. Having shown that these conditions of increased quantity, or of altered molecular constitution, may induce albuminuria without renal lesion, Dr. Jaccoud proceeds to enumerate the diseases in which it occurs, viz., some forms of dyspepsia, muscular atrophy, diseases of the respiratory organs, as phthisis, bronchitis, and pneumonia; also in pyemia, septicemia, and purpura.

III.—*Albuminuria by alteration of the Blood with Renal Lesions.*—Here microscopic examination of the urine during life, and inspection of the kidneys after death, prove the existence of renal lesion, but Dr. Jaccoud argues that this is secondary to the blood disease, and is in fact produced by it. Under this head he classes infectious or contagious fevers, when a rapid and general alteration of the blood

takes place—such as eruptive fevers, diphtheria, typhus, typhoid, and yellow fever; and in reference to scarlatina he draws attention to the fact that albuminuria occurs much earlier than is generally supposed, in some cases as early as the second day of the eruption, and that it is often present when there is no dropsy. Albuminuria from chronic poisoning, as by mercury, alcohol, or lead is regarded by all as belonging to this class, the blood being first altered and the renal disease following. In acute poisoning Ollivier believes the renal disease arises from the work of elimination thrown on the kidneys, but Dr. Jaccoud argues that here too the alteration in the blood is the first step in the process. Albuminuria from cachexia, and from the retention of excrementitious products, are the last forms placed in this section, that arising from cold being included in this latter form.

IV.—*Albuminuria by Renal Lesions*.—Dr. Jaccoud limits himself to a simple enumeration of these; and he concludes this section by saying it may cause astonishment not to find a special group of albuminurias symptomatic of the various forms of Bright's disease; but these are disseminated through the preceding classes as their pathology may require.

It does not seem necessary to proceed further with our analysis of this article. It occupies seventy-six pages of the dictionary, and forms one of the most valuable monograms we know on the subject. We have devoted considerable space to it because the true significance of albuminuria is not, we think, as generally recognized as it should; and the subject is one to which we have frequently alluded before in these pages. The article concludes with remarks on the diagnosis, semeiology, and treatment of the affection.

The article we have selected as a specimen of the *Dictionnaire Encyclopédique* is one on Acclimation, written by Dr. Bertillon. It occupies fifty-four pages of the work. We have chosen it because of its being a good specimen of the complete and exhaustive manner in which the articles in general are written; but our space will not permit of our doing more than give a very brief outline of its contents. It opens with a definition of the term, and shows that though the words *acclimatement* and *acclimatation* are derived from the same root they should be differently applied; acclimation meaning the spontaneous change the organization, when transported to a new climate, undergoes to place itself in harmony with the

new conditions; acclimatization being the art of accommodating other beings to a climate which is not their own.

It is with acclimation the article proposes to deal; but before fully entering on the subject Dr. Bertillon further defines the terms he uses. Perfect acclimation implies not only that an individual has become adapted to a new climate, but that his descendants will be able to live in it, and maintain the race; anything short of this is but a pseudo acclimation. Where the difference between the native climate and the new is slight the acclimation is *petit*, when it is great it is called *grand*. Where the new climate causes chronic disease, or the premature death of the individual or his descendants, it is called inacclimation; and if he lose the acclimation he had acquired, as may occur, it is called disacclimation.

Strange as it may appear Dr. Bertillon finds it necessary to protest against the consideration of acclimation being trammelled by theological views, or by fancied relations between it and the question whether all the human race were the offspring, originally, of one pair of parents, or of many; and having thus prepared the way he proceeds, in the first place, to examine all the facts, drawn from history and philology, which bear on the subject, especially in reference to the most ancient and most important migration of which we have any trace: the Indo-European, whence sprung the Celts, Pelagians, the Hellenes, the Slaves, the Goths, and Germans. One of the conclusions drawn from this review is that a rapid migration cannot establish a durable and prosperous colony, except on its own isothermal line, or a little to the north (colder) of it, and the success will be endangered in proportion as the migration extends beyond this towards the south (warmer).

A review of contemporary facts confirms this inference. The 10,000 French emigrants, who went to Canada from 1663 to 1760, are now more than a million of French Canadians, despite the disasters of war and a constant emigration to the United States. The acclimation of the English race in the United States of the North is equally evident, but in the southern states the acclimation is of a less decided character; and further South the emigrants are unable to even maintain their numbers. In Martinique the population increased, by emigration, from 1635 to 1740 to 15,000 whites, and 59,000 men of colour; but when war put a stop to emigration the white population decreased, though the coloured one rapidly increased. The rate of mortality in hot climates seems to increase with lapse of time. An ancient Governor of Cayenne (1742) gives

the following statistics of the mortality during his sojourn of nine years:—

Duration of sojourn,	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Mortality in 1,000,	15	19	42	21	60	75	82	102	125

The space at our command will not allow of our following Dr. Bertillon through the remainder of his examination of contemporary facts, or his remarks on the influence of race, in which he refers more particularly to the Negroes and Jews. The conclusion arrived at is that the French, English, and Germans, do not become acclimated in the Antilles, Guiana, India, Senegal, Egypt, &c.; that the acclimation of the French and Germans in Algeria is yet problematical; and that the Spaniards and Portuguese have proved theirs at the Antilles, at Mexico, in all meridional America, and even in Algeria.

Dr. Bertillon divides into four groups, or four periods, the phenomena of acclimation which develop themselves successively in a race newly displaced. Two of these concern the individual, the others his descendants.

The first period comprehends the physiological or pathological phenomena, of which the immigrant has most frequent consciousness in the first months after his arrival. To these semi-morbid symptoms there are frequently joined acute affections, more or less grave, endemic diseases often not subject to relapses, and which are, erroneously no doubt, considered as acclimatizing, such as yellow fever at the Antilles, *le bouhou* (a sort of influenza?) at Hayti, cholera in India, and certain bilious fevers at the Tropics. This first period is the only one that has been considered by authors, who generally assign to it a duration of two to three years. It is said that once these have been submitted to, and this primary modification of the organism undergone, all is finished, and there will be nothing else to endure. This is, however, a mistake arising from a misconception of the secondary, tertiary, and quaternary phenomena. This first period may be grave or light, without influencing the succeeding.

The second period assumes from the first a chronic form. There is a degradation, often insensible, of the organism; a physical and intellectual weakening—"La trame organique s'use, des rides apparaissent, l'individu vieillit: il vieillit vite." However, this old age has not always time to run through all the periods of decrepitude. In this adynamic state a population is liable to all kinds of morbid manifestations—typhus and scurvy in cold countries;

intermittent and remittent fevers, hepatitis, dysentery, in the Tropics; and these affections, far from conducing to acclimation, only develop an aptitude for relapse.

The duration of this second period is that of the life of the colonist, if it assume the characters sketched above, the acclimation of the race is far from probable; but in a second or third generation constitutions may arise suitable to the climate.

Third period.—This applies to the children of the first colonists. These, if the race be pure, do not receive from their parents the benefits of acclimation; they must themselves undergo its trials. The most assiduous care rarely enables them to go through the first years of infancy; but, if they are sent to Europe, they thrive well; showing that it is a want of harmony between the children and the climate, and not a degenerescence of the fetus that causes the mortality.

The fourth period is when the colonist has overcome these three primary periods, and when, thanks to care, to hygiene, or only to an apparent mildness of climate, the children of the second and third generation are reared, and a certain prosperity shows itself—but time puts a stop to all. Soon a degradation becomes evident, the births become less numerous; they are no longer in relation with the abundance of food; they scarcely compensate for the deaths, or leave a deficiency. Intellectual and physical activity are lowered; mercenaries and slaves become indispensable to support this weakened population, and foreign garrisons to guard and defend it, till at length, if they do not call to their aid the art of acclimatization, they soon cease to exist as a colony.

Having thus traced the conditions and phenomena of acclimation, the article concludes with suggestions on acclimatization, under the two heads of modifications to be effected in the climate, and in the organization of the individual to be placed in it. We regret that we cannot follow it to its conclusion; but we have already done enough to show our readers the style of the work.

Practical Anatomy. By CHRISTOPHER HEATH, F.R.C.S., Assistant Surgeon to, and Lecturer on Anatomy at, the Westminster Hospital. London: J. Churchill and Sons.

AMONG the numerous works on Anatomy which have recently

been published, we have not met one so much to our minds as Mr. Heath's little manual of dissections.

We willingly accord to it the highest praise it can receive, namely, the well-merited character of being thoroughly practical.

It departs, to a considerable extent, from the usual routine of English anatomical treatises, in abandoning the *systematic* method in favour of the *natural*.

Each region with its contents is examined in a brief but complete manner; and then, while the pure anatomy is fresh in the mind of the student, the medical and surgical relations of the parts are clearly and concisely alluded to. In a word, this manual combines happily the study of *applied* with *descriptive* anatomy.

It is quite sufficiently complete for general use as a hand-book in the dissecting-room, and for that purpose is superior to any similar work we have seen.

Notwithstanding its moderate size, it is wonderfully exhaustive; and its practical value is greatly enhanced by the numerous and excellent illustrations, both original and borrowed, with which it is adorned. A very complete index is superadded, so as to afford the pupil every conceivable advantage.

As to the style in which the book is brought out, we shall merely observe that it is quite worthy of its eminent publisher.

A Manual of Physiology, and of the Principles of Disease. By ED. D. MAPOTHER, M.D., &c; 2nd Ed. Dublin: Fannin and Co. 1864. Fcap., 8vo, pp. 567.

Two years ago—November, 1862—we introduced to our readers the first edition of this work, and foretold for it a ready sale. The appearance now of a second edition fully confirms the opinion we then expressed.

We perceive that this edition has been much enlarged—upwards of 70 pages, and 20 illustrations, being added; and the whole work has evidently been carefully revised. It consists of three parts: the first, a manual of physiology; the second, on the principles of disease; and the third, the examination papers on physiology and pathology, recently issued by the principal examining bodies in Ireland and England, with numbers after each question referring to the page of the book where the subject is fully discussed. We cannot doubt the value of this work to both teachers and students—to both it is capable, if rightly used, of affording most effective aid, and we commend it to the notice of both.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.^a

DR. MAYNE, President.

Fibro-Cystic Tumour.—DR. FLEMING exhibited a tumour which he had lately removed from the left side of the face and neck of a girl, aged eighteen years; it had displaced the lobe of the ear, and, in the vertical direction, had extended from above the zygomatic arch and mastoid process, as far downwards as a transverse line on a level with the upper edge of the cricoid cartilage. It crossed the side of the face to near the angle of the mouth; the integuments presented a dusky morbid appearance, and the external jugular vein and its tributaries were enlarged. The vertical and transverse diameters of the tumour ranged from six to eight inches. It was remarkably solid, and had a granular feel, in different portions, when the finger was passed gently over it. The fixity of the tumour in its bed was such, that it was difficult to ascertain its deep connexions with accuracy, more especially as regarded the articulation, angle, and base of the jaw. Towards the corresponding side of the pharynx there was a decided bulging, and lower down, near the commencement of the œsophagus, the tumour distinctly passed the median line. There was no difficulty of swallowing or breathing, nor any lesion of innervation. The general health of the girl was good; she suffered no pain; her sole distress arose from the deformity which the tumour occasioned, and she came from the country determined to have the tumour removed.

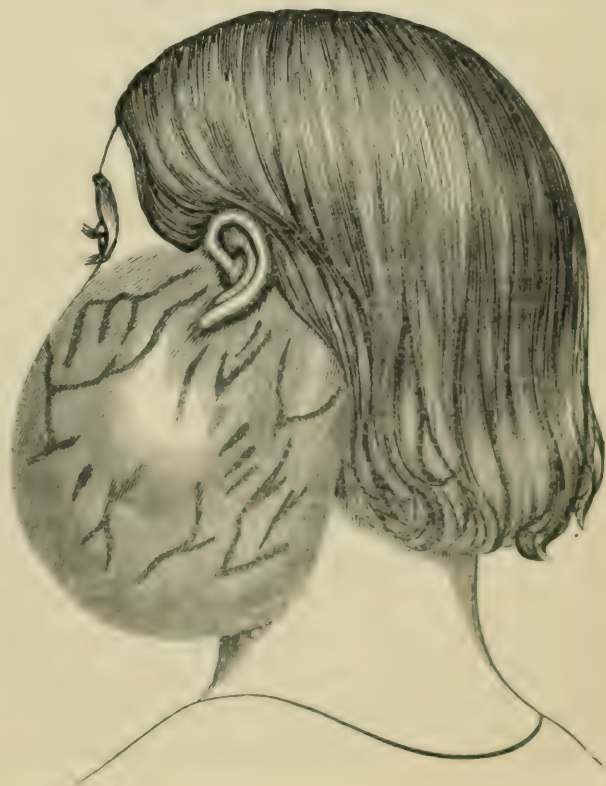
Three years ago she first noticed its appearance without any assignable cause, as a small movable kernel behind the ear, near the mastoid process of the temporal bone. It gradually enlarged, more rapidly during the last year, when she experienced more or less of uneasiness in it, of a

^a These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

somewhat periodic character. The catamenia had not yet been established.

It was not without very considerable doubt and hesitation that the removal of the tumour was decided upon; its rapid growth, situation, and fixity; the state of the integuments and superficial veins—all contraindicated operative interference. Encouraged, however, by his colleagues, and strongly urged by the patient herself, Dr. Fleming determined upon performing the operation. Every step presented difficulties; the superficial and deep connexions of the tumour were so intimate as to require the most careful dissection; it adhered to the several muscles about the angle of the jaw, and was so adherent to the parotid that a portion of this gland was sliced off, and its duct divided. The sheath of the common carotid artery was exposed a short distance from the bifurcation of the vessel.

Much collapse followed the operation; the case, however, proceeded favourably, and in five weeks the girl returned to the country, with the



wound almost perfectly cicatrized, paralysis of the side of the face, however, being present.

Upon examination, the tumour was found to consist of a solid mass, presenting to the hand, when passed over its surface, numerous small rounded elevations, resembling duck-shot. The entire tumour communicated to the touch a feeling of elasticity. It was not surrounded by a distinct cyst, but was enveloped by a mass of condensed cellular tissue, which adhered rather closely to it. Its section presented the character of a fibro-cystic growth, the fibrous elements preponderating, and forming throughout the tumour, numerous bands of variable length and consistence, crossing each other in every direction, the interspaces being filled by small cysts of different forms, some being spheroidal, others flattened, and all containing a darkish yellow fluid, tinged with blood.

It was evident, from the examination of the tumour, that the entire of it had been removed, and that it was not continuous with the surrounding tissues, although adherent to them. The microscope did not satisfactorily show that it possessed any of the characters of malignant growths.

Dr. Fleming made some remarks on the great variety of tumours which occurred in the several regions of the neck, many of which had been exhibited by himself and others to the society. He noted the difficulties attendant on the differential diagnosis of such tumours, and the importance attached to their anatomical relations. The case now under consideration was in many respects unpromising, yet there were features justifying operative interference. Notwithstanding the deep and firm connexion of the tumour, it was a remarkable fact that only one vessel required the application of a ligature. Dr. Fleming expressed his great apprehension of the return of the morbid growth. The facial paralysis was to be expected—yet, at one period during the more advanced curative stages of the wound, a hope was entertained that it would have in a great manner disappeared, so much had the local muscular action been restored. Dr. Fleming alluded to the removal of a tumour, somewhat similarly circumstanced, from a man, aged forty years, by the late Mr. Carmichael. That tumour was smaller in size, much slower in growth, equally consistent in feel, but with deeper and more complicated connexions. Facial paralysis followed on the operation. The case is reported in the second volume of the *Transactions of the College of Physicians*.—November 28, 1863.

(About six months after the operation, a tumour appeared in the situation of the original growth, and slowly but steadily increased, in consequence of which the girl was again admitted into the hospital. The recurrence of the tumour was only too obvious: it was fixidly imbedded between the angle of the jaw and mastoid region; her health was good, but she complained of pain in the head, and in the situation of the tumour. Shortly after admission she was seized with fever, and was

transferred to the Hardwicke Hospital, where she died in about a week. There was no morbid growth, malignant or otherwise, found in any of the cavities. The recurrent tumour presented the same anatomical characters as those of the original growth.—*October, 1864.*)

Acute Suppurative Arthritis.—DR. M'DOWEL said, that on the 13th of February he had brought under the notice of the Society a most marked example of acute periostitis, affecting the upper extremity, and implicating the elbow joint, which terminated fatally; and he had now to draw their attention to another instance of the same disease, which also ended in the death of the patient—a boy, nineteen years of age, who had been for some years engaged in work for which his strength and constitution were unfitted.

Three days before his admission into hospital he had been attacked with febrile symptoms and pains in the joints, resembling those which usher in an attack of acute rheumatism. His pulse was rapid, and his skin hot; and he complained of severe pain in the right knee joint, which, however, presented no unnatural appearance.

Upon the second day it became evident that the pain in the knee was sympathetic; for he now complained of severe pain in the right hip, which upon examination was found to be swollen, and there was manifestly periostitis of the ilium.

Upon the following day, the third after admission, the shoulder joint became engaged; and within twenty-four hours afterwards the wrist became swollen, and a bright red blush appeared over it. Within a short period afterwards periostitis of the tibia, with distinct red patches, occurred; and a few small pustules made their appearance over the trunk, of the same nature as those so frequently found associated with blood-poisoning.

All this time the fever was of a typhoid character; there were sordes on the gums and teeth; the tongue was dry and red, and he suffered from intense thirst; he raved at night. The pain was confined to the region of the hip, and was often so intense as to cause him to scream. A large abscess formed with rapidity on the trapezius muscle. The boy became stupid and heavy, and after a few days died in a semi-comatose condition. Dating from the time that he left off work, the disease ran its course in about twenty days.

Post mortem appearances.—Two large abscesses existed, one on either side of the iliac bone beneath the muscles. In both situations the periosteum was extensively detached, so that the pus lay in direct contact with the bone, which presented a pinkish colour.

The hip joint was extensively diseased, and the cartilaginous surfaces were coated with a deposit of yellow-coloured lymph, which, with the exception of its being perfectly smooth, closely resembled that which is seen as the result of pericarditis. Such deposits, Dr. M'Dowel observed, were

very rarely met with as the result of synovial inflammation. In several places the cartilage of incrustation had undergone extensive absorption, whilst a large quantity of purulent matter filled the articulation, and communicated with the large abscess in the external iliac fossa by a round opening in the capsule towards its upper and outer side. Dr. M'Dowel believed that the ulceration of the capsule had proceeded from within outwards, and that in this respect the case under consideration further resembled the cases of periostitis with synovitis described by his late father in the 3rd and 4th volumes of the *Dublin Medical Journal*. In that communication, the late Dr. M'Dowel says:—"I am not aware of its being recorded that an iliac abscess may result from this affection; yet in four cases I have found it occur. The fluid, escaping through an opening on the inside of the capsular ligament, passes upwards behind the psoas, and ascends into the iliac fossa, detaching the muscles from the bone."^a

In the case now recorded the purulent matter escaped through an opening on the outer side of the capsule, and passed upwards beneath the glutæi muscles into the external iliac fossa. In addition to these, which constituted the primary and more local lesions, there were found other pathological changes, which may be regarded as secondary or consecutive. Numerous patches of ecchymosis existed on the surface of the lungs, but without purulent deposits, with recent pleuritis. There was also diffuse inflammation of the kidneys, evidenced by patches of softening, with small purulent deposits in the cortical substance.—*March 12, 1864.*

Gangrene of the Lung.—PROFESSOR LAW exhibited a specimen of gangrene of the lung. The subject of the disease was a man thirty-eight years of age. He had had measles badly in childhood, and from that time his chest was delicate, but not so much so as to interfere with his occupation as a carpenter. He was tolerably healthy until about the thirty-fifth year of his age. He had been married a year, and up to that time led a very regular life, and was not a drinking man. He, however, lost his wife, and afterwards drank freely, and became otherwise dissipated. He had had venereal disease, for which he was treated frequently with mercury. He had been ill, he said, for three months previous to his admission into the hospital, his health having then entirely given way. He came under Dr. Law's care labouring under an acute attack, which appeared to consist of a febrile affection and disease of the chest. Both sides of the chest when percussed emitted a dull sound, and his respiration was weak, accompanied with a loud large coarse crepitus. It appeared to be a case of double pneumonia, and was prescribed for accordingly. The day after his admission he appeared to be in a very low depressed state. Dr. Law remarked upon the wisdom

^a Dr. M'Dowel's Observations on Periostitis, &c., *Dublin Medical Journal*, Vol. iv., p. 8.

of Dr. Todd's observation in reference to both heart and chest affections, that the physician will do well first to examine the constitutional symptoms before he applies himself to the examination of the local signs; as, if the latter be first examined, he may afterwards see the constitutional symptoms through a prejudiced view. The man was in such a very low depressed state that it was necessary to support him with stimulants almost immediately after he came into hospital. He seemed to improve a little, but not much. He was admitted on the 18th of February; and on the 7th of March, on entering the ward where he lay, Dr. Law perceived an extremely fetid smell, which pervaded the entire ward, and was more perceptible the nearer he approached the patient. His impression was that the case was one of gangrene of the lung. However, there was no smell from the man's breath, nor from his expectoration. Dr. Law felt it difficult to explain this, but still he had not a doubt on his mind that the disease was gangrene of the lung. On the night of the 10th of March, or rather on the following morning, about 2 o'clock, the patient was suddenly seized with an oppression of breathing. The nurse who came to him thought he was dying; however, she applied stimulants, and he recovered to a certain extent, and fell asleep for a couple of hours. When morning arrived, however, he was so ill that he wished to have his clergyman with him about 9 o'clock. He (Dr. Law) saw him at about a quarter to 10 o'clock, when he was perfectly sensible, but had no pulse; and in about half an hour after, he expired. The *post mortem* examination presented a very good specimen of what was called diffuse gangrene, occupying both lungs. There were adhesions between the pleuræ on both sides, which could hardly be separated; and on attempting a separation the fingers sank deeply into the broken-down diseased substance of the lung. There were marks of recent pleuritis; there were through the lung, and on it, fibro-cellular bands, the effects of former pleurisy; and there was also a good deal of emphysema of the edges of the base and through the whole of each lung. There were, in fact, marks all through of chronic pneumonia, and of more recent attacks of acute as well as of chronic pleurisy, besides a considerable extent of decomposed pulmonary structure. The case closely resembled one which Dr. Gordon exhibited on the previous Saturday. The peculiarity was the fetid smell. He examined the man very closely, in order to see if it proceeded from the breath, but it did not seem to do so.

Professor Law remarked that all the cases of gangrene of the lungs that had come under his observation occurred either in persons of intemperate habits, or in those who, at the time of exposure to cold, were more or less under the influence of drink. One of the preparations which he exhibited was an example of circumscribed gangrene, involving almost the entire lung. Almost the whole pulmonary structure was reduced to a

mere shreddy pulp. The dead sloughy portion was contained in a distinct cavity, whose walls were formed of a thin stratum of the pulmonary tissue. In this cavity, too, there was a quantity of blood in a state of decomposition. The patient, before his death, had had profuse hemoptysis. The subject of this case had lain out on damp hay when in a state of intoxication.

Another case of fatal gangrene of the lung that came under Dr. Law's care, occurred in a man who, when not sober, in coming on shore from a vessel in the Liffey, along the quay wall, fell into the water. He, too, had profuse hemoptysis, and the blood emitted a most fetid smell.

Another case occurred to him in the person of an English gentleman, who, while playing cricket, became heated, drank champagne, and lay down on the grass. In the evening of the day he was seized with all the symptoms of pleuro-pneumonia, for which he was actively treated by his ordinary medical attendant, a man of much experience, but who resided at a considerable distance. He got on well for about ten days, but then seemed to retrograde. He was now seized with hemoptysis, which alarmed his friends, who sent for Dr. Law—whom they knew to be more within their immediate reach than their ordinary physician. He at once recognized the characteristic fetor of gangrene of the lungs. He was requested to meet the attendant physician in consultation, which he did. He mentioned to him how his attention was arrested by the fetor both of the gentleman's breath and expectoration. The physician had not noticed this. On Dr. Law's enquiring of the friends if they had remarked it, they at once said that it was so offensive that, with every disposition to minister in every way to the comfort of the poor patient, they could not remain in his room for even a short time. The physician now, at length, admitted that he did perceive a smell, to which, he confessed, he was a stranger. He entered readily into Dr. Law's view as to the cause of the smell, and saw in it the reason why his patient had not made progress. It was at once determined to adopt a tonic treatment, and strengthen him by every means possible. It was quite remarkable what a speedy improvement took place upon this change of treatment, and which issued in a complete recovery.—*March 19, 1864.*

Cancer of the Liver.—DR. JENNINGS exhibited two specimens of Farre's tubercle of the liver, obtained from patients, both males, who had died in the South Union Hospital, during the early part of the week. In the one there was co-existent scirrhus of the pancreas. In the other, the stomach and peritoneum were extensively diseased. The two cases derived peculiar interest from the fact, that while their histories during life differed in many respects, they were, on the other hand, strikingly similar in the absence of many of those symptoms which were

generally accepted as characteristic of this affection. The first patient, forty-four years of age, was originally admitted (10th November, 1863) in a state of great emaciation, and labouring under intense jaundice, which had partially become deeper in shade since its first appearance about six months previously. During this period he stated that he had chiefly suffered from pyrosis and generally deranged digestion, latterly accompanied by a constant sensation of hunger and thirst, both of which appetites were, at this time, almost insatiable. There was considerable tympanitis, and the outline of the liver could be traced increased in extent, but presenting no irregularity of surface.

After the lapse of a few days, he left the hospital, not returning until the 6th January following, when he remained until the 23rd of that month suffering from his former symptoms. During this time the alvine discharges were always more or less deeply tinged with bile.

On the 29th February he was again admitted, much worse, in every respect—weaker, more emaciated, with total loss of appetite, insatiable thirst, and occasional vomiting of colourless fluids. The motions were now found to present the familiar clay colour.

At no period of this illness did he suffer from constipation; nor while under observation was pain present until a few days before death—not even was tenderness on palpation well marked; vomiting was only occasionally present, but not until near the close of the case—an unusual circumstance to which attention had been directed many years ago, by Dr. Greene of this city.

To the very last, also, the total absence of delirium was most remarkable, which even the vicarious action of the kidneys, loaded as the urine was, with bilious elements, failed to satisfactorily explain; nor did he even present the faintest trace of ascites or anasarca.

Notwithstanding the absence of these valuable aids to diagnosis, the patient's freedom from any strumous taint, his age, great emaciation, and marked cachexia, sufficiently declared the malignant nature of the disease.

On opening the abdomen its contents were seen deeply tinged with bile. The stomach was enormously distended with colourless fluid and masses of white curd-like matter; but free from disease in all its coats. The gall-bladder was expanded to about the size of an ostrich egg, and filled with bile. The hepatic and choledic ducts were greatly dilated and thinned. There was no peritoneal effusion; but the membrane was generally thickened and adherent in the vicinity of the disease, from chronic inflammation. The liver was of a dark green colour, from bilious engorgement, and studded throughout with the tubercles of Farre, and the pancreas, especially at its head, was converted into a scirrhus mass, which, by pressure, had completely occluded the choledic duct, forbidding the passage even of a fine probe. The duodenum was healthy and its calibre undiminished. Death occurred from exhaustion.

The second specimen was taken from the body of a man of forty-seven years of age, who had applied for treatment on the 16th February last, and whose illness had commenced some ten or twelve months previously. Attention was immediately arrested by his peculiar aspect and leaden colour, so usually expressive of malignant disease. The most prominent of his symptoms were emaciation, though, by no means, to such an extent as in the former case—sleeplessness; anorexia; great thirst; pain and tenderness over the liver, which was manifestly greatly enlarged. There was not the faintest trace of jaundice, and nausea only declared itself occasionally during the last ten days of his life, being then relieved by the use of the solution of bismuth, brandy, &c. He never suffered in the slightest degree from constipation, anasarca, or ascites. For the last few days low muttering delirium set in, and during the final twenty-four hours of his life he lay in a comatose condition.

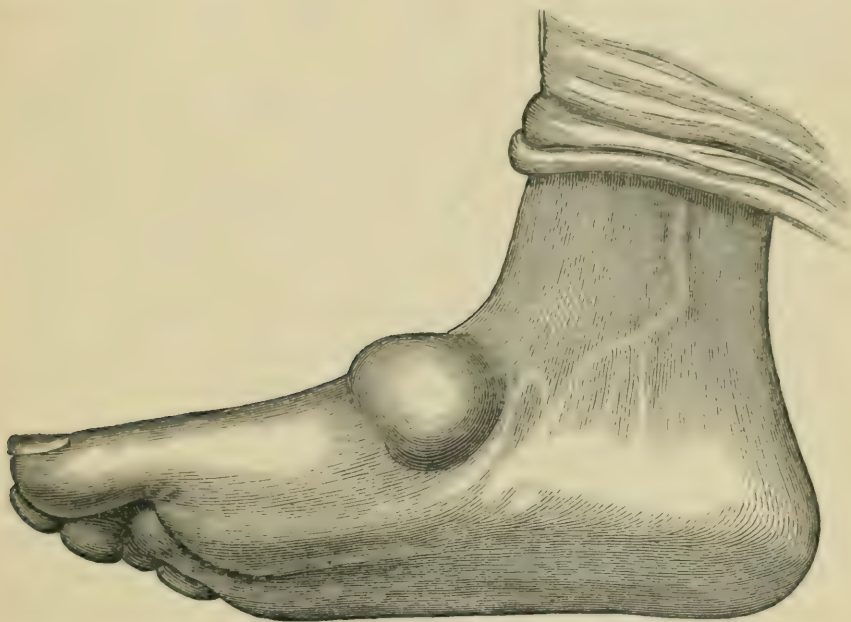
The autopsy showed the great and lesser omenta, thickly covered with oval-shaped scirrhous tubercles; as also was the peritoneum lining the under surface of the diaphragm to which, and to the costal cartilages, the liver was firmly adherent in several places. The liver itself was enormously increased in size and weight, and was everywhere occupied with large white scirrhous masses. The gall-bladder was normal in appearance, and its ducts pervious. Imbedded in the layers of the lesser omentum and near the pylorus lay a large scirrhous mass compressing somewhat this extremity of the stomach.

Dr. J. concluded by saying that when this case, in which the liver had more or less perfectly discharged its functions to the very last, was contrasted with the former, it seemed almost inexplicable why delirium and coma should have appeared, having been completely absent where the presence of these symptoms would more naturally have been expected.—*March 19, 1864.*

Dislocation of the Internal Cuneiform Bone.—PROFESSOR R. W. SMITH exhibited a cast of a luxation of the internal cuneiform bone. The accident happened at Rome, about three years ago. The gentleman, Mr. B., who was the subject of it had been out riding; and just as he reached the vicinity of the stable on his return (his feet not been in the stirrups at the time), the horse slipped and fell sideways, the weight of his body pressing on the gentleman's right foot, which came against the edge of the flagway. A surgeon was at once sent for, who made ineffectual efforts to reduce the luxated bone, which has ever since remained displaced. When passing through Paris, on his way home, he consulted Nélaton, who did not think it prudent to make any attempt to restore the bone to its place, as a long period had then elapsed since the occurrence of the accident. The functions of the foot have now been completely regained, as evidence

of which it may be mentioned that Mr. B. lately crossed eighteen feet of water in a running jump.

The arch of the foot is nearly altogether effaced, and at its inner side the displaced bone forms a very striking prominence; it has been thrown almost directly inwards, its surfaces retaining their natural aspects, the internal being directed perhaps a little more upwards than in the normal condition; the foot in front of the ankle joint presents an elongated appearance.



Professor Smith observed that, as far as he could ascertain, this was but the fourth case to be found in the records of surgery of this remarkable displacement. Sir Astley Cooper mentions his having seen two examples of it, both of which presented the same appearances, there being a great projection of the bone inwards, and some degree of elevation, from its being drawn up by the action of the *tibialis anticus* muscle. In neither case was the bone restored to its natural position. The cause of the accident in one of the cases was a fall from a great height; in the other, a horse fell with his rider, and the foot was caught between the animal and the curb-stone.

M. Nélaton has recorded an example of compound luxation of the great cuneiform bone caused by the passage of the wheel of a carriage across the foot; the bone was extracted, and the patient recovered perfectly.—*March 19, 1864.*

Emphysema.—DR. LAW exhibited a specimen of extensive emphysema of both lungs. The subject from whom it was taken was a woman about forty years of age, who had been more than once under his care for

bronchitis and emphysema. She was tolerably well during the Summer; but when Winter set in she always became oppressed with severe dyspnea. There was universal emphysema, with bronchitis, to such a degree, that scarcely any benefit was expected from treatment; however, she made a slight rally. Dr. Law observed that in the whole course of his experience he had never observed the same amount of cyanosis as in this case. The entire surface was perfectly livid, and she was quite cold. She lived for some time, becoming now a little better, and again worse; at length the limbs, and ultimately the body, began to swell. Dr. Law tried to act upon the kidneys, and with partial success for some time; but at length the urinary secretion seemed to be entirely suppressed. Although she seemed to be in a weak state, he directed a small quantity of elaterium—the sixth of a grain—to be given to her; this produced a remarkable effect in reducing the swelling. The chief reason why he alluded to this was, that the diuretic medicine which was tried before did not produce the least effect, but after the administration of the elaterium caused the kidneys to act freely. About four days before her death she began to rave. She informed him each morning that the nurse had given her chloroform largely, and that it had produced a most uncommonly strong effect upon her. She fell into a deep coma, and so expired.

Upon examination of the body, the following appearances presented themselves:—A large quantity of pure serum was found in the cavity of the right pleura, and the lungs exhibited as perfect a specimen of emphysema as he had ever witnessed. There was not a portion of either lung that did not appear to be emphysematous; not alone were the air cells dilated, but the air was extensively diffused through the inter-lobular cellular tissue, and under the pleura covering the lung. The heart, although it exhibited the dilated right ventricle, and the hypertrophy of the left ventricle, so constantly observed in cases of extensive pulmonary emphysema, did not present these abnormal conditions as strikingly as might have been expected from the extent of the emphysema.

Dr. Law remarked upon the great diversity of opinion that had prevailed upon the mode in which emphysema occurred. While it was admitted that it generally originated with bronchitis, it was no longer supposed that it was the portion of lung affected with bronchitis that became emphysematous; that the air passing through the contracted bronchial tube was retained in the vesicular structure beyond the contraction, and, accumulating there, induced a permanently inflated condition of it. Dr. Gairdner proved the error of this view, by showing that, when a bronchial tube is partially obstructed or narrowed, the portion of the vesicular structure of the lung that lies beyond the constriction, so far from becoming inflated, falls into a state of collapse; and that it is in fact the portion of lung not affected with bronchitis that becomes emphysematous, in consequence of the air (that experienced a difficulty in entering into the affected part)

making its way where it met with no obstruction, and in unusual quantity, thus distending the cells, and ultimately weakening their elasticity or contractile power, and so inducing their permanent inflation. Each successive attack of bronchitis increased the emphysema, until it involved more or less of the organs of inspiration, and caused death, either directly through those organs, or through the cardiac affection that so frequently resulted.

Dr. Law reverted to the observation that he made relative to the dilatation of the right ventricle of the heart, and the hypertrophy of the left, which, although they did exist, were less in this case than might have been expected from the extent of the emphysema. He thought he found an explanation of this disproportion in the dropsy, much in the same way as the enlargement of the spleen in cirrhosis of the liver is observed to bear an inverse proportion to the dropsy: when there is no dropsy in cirrhosis of the liver, the spleen becomes very much enlarged; but when the dropsy is moderate, the enlargement of the spleen is inconsiderable; and, when the effusion is very considerable, the splenic tumour is often not perceptible. When, in cirrhosis of the liver, the spleen becomes enlarged, it is because it becomes the diverticulum of the blood that should pass through the former organ. Just as the occurrence of ascites relieves the spleen, Dr. Law is of opinion that dropsy in the same way relieves the heart of the blood which would otherwise be retained in it, and thus produce permanent dilatation. He believed that a very close analogy existed between the cirrhotic liver and its influence on the spleen, and the emphysematous lung and its influence on the heart; and that, as observation had established the fact that as the condition of the spleen was modified by the presence or absence of dropsy in cirrhosis of the liver, so future observation would recognize a similar modification of the condition of the heart in emphysema of the lung, according to the presence or absence of dropsy. The organs of the abdomen also presented some interesting morbid appearances. The woman had before her death considerable vomiting, and discharged from her stomach a great quantity of black matter, resembling coffee grounds. Dr. Law believed that a sufficient explanation of it was to be found in the ecchymosed condition of the sub-mucous cellular membrane of the stomach, consequent upon the difficult transmission of the blood through the lungs. This vascular condition of the mucous membrane of the stomach producing ecchymosis was not of infrequent occurrence in heart disease, and was the immediate cause of the death of George IV. The liver presented an extremely good specimen of the nutmeg liver, the pathology of which was still involved in some degree of obscurity. There were also fibro-cellular bands, of various lengths, between the upper surface of the liver and the diaphragm; a similar structure dipping into the substance of the organ, in contracting, had caused the organ to assume the lobulated appearance.—*April 2, 1864.*

Pelvic Abscess.—DR. STOKES said he had been requested by Mr. O'Ferrall to submit the pathological specimen which he now laid before the society, and which had been taken from the body of a young woman who died in St. Vincent's Hospital. The history of the case was a curious one. About four months ago this young woman discovered a small tumour at the lower part of her abdomen, at the left side, which was attended at the time with some pain. Under medical advice she applied a blister, which relieved her, and she thought very little of the illness until she became attacked with a peculiar form of diarrhea, alternating with fits of constipation. She then came to St. Vincent's Hospital, and was admitted under the care of Mr. O'Ferrall. Upon examining the alvine discharges, it was ascertained that they consisted, in a great measure, of perfectly formed purulent matter. In this state she continued for about a month, when a new feature was developed. The urine became suddenly loaded with purulent matter; and in this state, with purulent discharges from her bowels and bladder, the patient continued during several weeks. The last phase of the disease was, that she was suddenly seized with symptoms of peritonitis, evidently proceeding from perforation, under which she sank in the course of twelve hours. The diagnosis formed by Mr. O'Ferrall was, that an abscess existed somewhere in the region of the uterus or ovary, or embracing both; and that it communicated first with the rectum, next with the bladder, and lastly with the peritoneum. The patient was unmarried; and as to the exciting cause of the disease nothing seemed to be known. It was certain that she had not had gonorrhea, which is occasionally an exciting cause of ovaritis.

The *post mortem* examination showed that the cavity of the abscess opened into the rectum by two large sloughs. The peritoneum was extensively inflamed, and the whole of it covered with purulent matter and lymph. The tumour, which seemed to have had its origin in the ovary, was full of purulent matter, but no fistulous communication existed between it and any of the surrounding parts. It was very remarkable that as long as the woman remained in the recumbent position there was no diarrhea, but it came on whenever she assumed the erect posture.—*April 2, 1864.*

Thrombosis of the Heart.—DR. HAYDEN presented to the society a remarkable specimen of thrombosis of the heart, taken from the body of a man, about forty years of age, who was the subject of angular curvature of the spine. He had been accustomed to earn his livelihood by the sale of vegetables, under an archway, and was thereby exposed to currents of air and severe cold. While thus exposed, during the early part of February last, he experienced severe pain in the chest, accompanied with cough and great dyspnea. For this attack he was treated by one of the

city dispensary physicians, until the 11th of March, the date of his entrance into the Mater Misericordiæ Hospital. At the time of his admission his symptoms were the following:—The face and extremities were deeply congested; the dyspnea from which he suffered was extreme; his pulse was irregular, and occasionally intermittent; there was tenderness over the region of the liver, and venous pulsation at the root of the neck on the right side; the chest was resonant throughout; the respiration was feeble, and greatly hurried; and expiration was prolonged, and accompanied with loud bronchial râles. The area of precordial dulness was considerably diminished; the heart pulsated behind the lower extremity of the sternum; its action was tumultuous, but, owing to the loud bronchial râle, and the restlessness of the patient, it was impossible to determine whether or not it was accompanied with cardiac murmur. The diagnosis at which he arrived was, that this was a case of emphysema of the lungs, with superinduced bronchitis; engorged right cavities of the heart, and probably congested liver.

Under treatment the patient appeared to undergo a slight improvement, and now for the first time, after several weeks, he was able to lie down and enjoy some sleep. Moreover, the bronchial râles became so much less loud that it was now possible to make a satisfactory examination of the heart, and to determine the absence of cardiac murmur; both sounds were distinctly audible. This improvement, however, was only of temporary duration. In a short time the symptoms returned in an aggravated form. The pulse became again feeble, irregular, and occasionally intermittent; the extremities became cold; the patient was unable to lie down; and on examining his heart, now for the first time a murmur was audible over the base; it was systolic, and traceable upwards over the course of the aorta. It was, moreover, remarked that there was now a total absence of the second sound of the heart, which was not represented by any murmur whatever. The man's symptoms became daily more aggravated; and on the 27th, about five in the evening, he expired.

On examining the body, they found that both lungs were emphysematous, and the lower lobe of the right congested deeply, and obviously in the first stage of pneumonia; the branch of the pulmonary artery which supplied this lobe was deeply tinted red. The lining membrane of this vessel was obviously the subject of acute inflammation, coincidently with that of the parenchyma of the inferior lobe; the superior lobe was simply emphysematous, and not at all congested; the left lung was affected only with emphysema. The pericardium was partially filled with serum; and its lining membrane was opaque, thick, and in certain situations presented a number of nodular deposits of recently effused lymph. The heart was considerably hypertrophied, and there were large deposits of fat in the cardiac sulci. The right auricle did not contain blood, and was considerably dilated; towards the upper part was found a band of decolourized

fibrin that had its origin in the auricular appendix, and thence descended through the auriculo-ventricular opening into the right ventricle, and was entangled in the muscoli pectinati of the appendix. The entire cavity of the right ventricle was filled with a mass of decolourized fibrin, which extended by its branches into all the recesses between the carnae columnae and the chordae tendineae.

The appearances presented by this mass on the recent section might not inaptly be compared to the section of a Swedish turnip, the centre being somewhat liquefied, while the circumferential portion was perfectly firm. The band of fibrin already spoken of as extending from the right auricle into the ventricle was connected with this great mass in the latter cavity. It was, moreover, observable that the clot itself was inextricably entangled with the anterior and left segments of the tricuspid valve; whereas the posterior segment, which is attached to the septum ventriculorum, was quite free. It was impossible to detach the thrombus without lacerating the valves. Nodules of lymph, evidently not of recent formation, were deposited on the auriculo-ventricular valve, as seen from its auricular aspect; the ventricular aspect, likewise, presented appearances of some importance: thus the right segment of the valve was immensely congested as contrasted with the remaining portion of the interior of the ventricle, which was perfectly normal in appearance. On passing to the left side of the heart, he found there likewise a thrombus (not at all of the same magnitude as the former one), occupying the left ventricle, and having its roots entangled with some of the columnae carnae of that cavity, near the apex, and extending from thence to the aortic opening, through which it passed into the aorta; it was somewhat cylindrical in figure, perfectly decolourized, and lay in the axis of the passage between the segments of the aortic valve, in such a manner as effectually to prevent their mutual apposition or complete tension, without interfering materially with the efflux of blood, or permitting its reflux into the ventricle. It was manifest that this state of things was competent to abolish the second sound of the heart. It was manifest likewise, that, inasmuch as it lay in the axis of the opening, it was competent to cause an eddy in the outgoing current of blood, and thereby to occasion a murmur with the first sound of the heart. It would be vain to speculate upon the significance of the facts now mentioned. Suffice it to say that they had not as yet arrived at an accurate diagnosis of thrombus of the heart. One fact in connexion with the case was of great interest, namely, the coincidence of the abolition of the second sound of the heart and the development of murmur with the first sound towards the close of the patient's illness (neither of these phenomena having existed previously).

Dr. Stokes mentions a very interesting case which occurred in the practice of the late Mr. Rynd, in which there was a thrombus of the left ventricle passing through the aortic opening, and causing the development,

towards the close of the patient's illness, of a murmur which was audible behind the lower end of the sternum; but it did not appear from the report of the case whether the murmur was systolic, or whether there was any alteration of the second sound of the heart, or whether it was or was not abolished. It would be difficult, in the case now before the society, to say at what period the vast thrombus which occupied the right ventricle was formed. They had, of course, in the condition of the lungs, and in the hypertrophied state of the heart, sufficient to explain the symptoms which the patient exhibited, without having recourse to the supposition that the thrombus existed at the time the patient first came under observation: still he thought they must admit, looking at the decolourized condition of the mass of lymph—considering, moreover, the fact that the central part of it under the microscope appeared to be undergoing disintegration, and consisted of broken up fibrin, and a number of granular cells—that it was fair to argue that this thrombus had occupied the right ventricle of the heart of the patient considerably anterior to his death.

They had, moreover, what appeared to him to be an unique feature in this case, namely, evidence of inflammatory action in the auriculo-ventricular valvular apparatus on the right side, with a deposit of lymph on it, and they had the thrombus entangled in this valve. It would, then, appear as if that was the starting point of the formation of the thrombus; and that it then extended by prolongation to the right ventricle, and in the course of the current of blood, and became augmented by successive deposits until it came to occupy the entire cavity. It was difficult to suppose that so large a mass could have existed for a long time without effectually preventing the circulation of the blood, at least in volume, through the right ventricle. If water were poured into the right auricle, it would pass into the right ventricle over the clot; and moreover, it would pass with great facility into the pulmonary artery. On pouring water into the pulmonary artery, he determined that its valvular apparatus was unaffected; but on pouring it into the aorta, the water passed into the left ventricle, but very slowly, clearly showing that, owing to the polypus on that side, the function of the aortic valvular apparatus was in some measure in abeyance.—*April 2nd, 1864.*

Bright's Disease of the Kidney.—DR. MACSWINEY exhibited a specimen of Bright's disease of the kidney, taken from the body of a woman, aged about 36 years, who was received into Jervis-street Hospital, on the 30th of March last. She was then in an insensible condition; and the man who brought her to the hospital stated that she had been attacked with "fits" in the course of the preceding night, *i. e.*, a few hours before she was admitted. When Dr. MacSwiney saw her in the morning, she lay coiled up in the bed, motionless, insensible, and breathing heavily. Her face

was pallid, or rather indeed sallow; her eyelids half open, the eyes turned up, fixed, and staring; and the pupils dilated, and insensible to light. The pulse was slow and weak; her mouth was partially open, and a small quantity of a dirty-looking fluid was trickling from it. She had vomited some of the same kind of fluid three or four times since her reception into the hospital. Whilst inquiring into the particulars of her case at the bedside, she was suddenly seized with a very severe attack of clonic convulsions, which was preceeded by a sort of low moan, during which her breathing seemed to be suspended, and her arms, legs, and head violently jerked backwards. Her face had a somewhat puffy appearance; and, reasoning from this symptom, from her aspect, and from the character of the convulsions, Dr. MacSwiney concluded that the case was one of uremic poisoning. The urine was highly albuminous. She remained in a state of unconsciousness for about thirty hours, during which period frequent attacks of convulsions—similar to those already described—occurred. After this time, however, she recovered for some hours, so far as to be able to sit up in the bed and take some light food. She could speak also, but not fluently nor rationally. The fits again returned, however; and she died, worn out, on the 3rd of April. No history of this woman's case could be obtained at first, but it was subsequently ascertained that she belonged to the class of "unfortunates," and had led a very intemperate life. The *post mortem* appearances, were, in brief, as follows:—The vessels of the brain were much congested with dark-coloured blood. The arachnoid was thickened, and quite opaque where it stretched across the central sulci. Sections into the substance of the brain showed that organ to be considerably congested; but there was no blood effused, nor was there any fluid in the ventricles. The lungs and heart were healthy, as were also the abdominal viscera, with the exception of the kidneys which were small and contracted lobulated on the surface, and hard in consistence. The investing capsules were closely adherent. When cut open, they exhibited striking examples of the diseased state of their cortical portion so often met with in fatal cases of Bright's disease, where there is impairment and obstruction of the secreting tissue of the gland. The ovaries were diseased, being atrophied and converted into cystic growths, containing a curdy fluid. The bladder was adherent to the uterus.—April 16, 1864.

Chronic Inflammation of the Testicle; Suppuration of the Tunica Vaginalis.—MR. HAMILTON, in bringing before the society a case of disease of the testicle, observed that the operation of castration was usually employed where the disease was of a malignant character, and was consequently most unsatisfactory, inasmuch as the disease very generally returned. Still the surgeon felt it to be his duty to remove the testicle in such cases, as the only chance, though a slight one, of freeing the patient from a malady almost inevitably fatal. They were also, however, called on to undertake

the operation when the disease was not malignant, but of an incurable character—for instance, in strumous diseases of the testicle; in cystic disease, of which he had formerly exhibited a specimen; and in some cases of chronic inflammation, which had ended in disorganization of the gland. In chronic inflammation, with enlargement and induration, it might appear that the removal of the testicle was not of urgent necessity. It will be found, however, that an enlarged testicle is a serious inconvenience; it is very subject to injury, and by its weight drags on the nerves of the chord, and causes pain in the back, preventing the sufferer in some cases from following his usual avocations. For example, Mr. H. removed a testicle from a groom, who was prevented by it from earning a livelihood. The case he was about to exhibit was one of this class. The man was admitted into hospital with disease of the left testicle, the tumour being of the size of a small cocoa-nut. It was red and œdematous, and there was adhesion between the tunica vaginalis and the enlarged testicle. It appeared to be a case of abscess of the testicle itself, which was making its way towards the surface. The man was an engine boiler worker, and about three years ago he received a blow on the testicle from a piece of flying iron. Acute inflammation was rapidly set up, and then it subsided into the chronic state; but there had been evidently great enlargement of the testicle; and though it continued large, it was not painful, and the man was able to attend to his work. Two months before his admission into hospital he was struck a second time with a piece of iron on the diseased testicle. Acute inflammation was at once excited; and when he was admitted, there was an open abscess, giving exit to a profuse discharge of matter, and the man seemed to suffer a good deal. Having allowed the violence of the inflammation to subside, he examined the testicle more carefully, and found that both it and the chord were enlarged and hard. Its removal was recommended, and the man willingly assented to the performance of the operation. In ordinary cases of castration the operation was one of the most simple in surgery; but in the present case it was not quite so easy, owing to the existence of adhesions, which rendered rather more than the usual amount of dissection requisite. The testicle was not so much diseased as he anticipated; and the abscess was not in it, but in the tunica vaginalis. In a portion of the epididymis there was a collection of pus. The testicle was not enlarged to any great extent. The surface of the tunica vaginalis was considerably diseased, and presented a granular appearance corresponding to the surface of the testicle. There was a quantity of hard, semi-cartilaginous lymph. At the first glance the testicle would seem to be but little diseased, but it was his belief that it was extensively affected, and presented that appearance peculiar to chronic inflammation of the testicle under certain circumstances. Sir Benjamin Brodie states that in chronic inflammation of the testicle, the usual pathological condition is that of yellow tubercle in the substance

of the gland; but this was not the only form. Mr. H. believed that chronic inflammation effected other changes, such as were observed in this testicle and that of the groom which he had already exhibited to the society, and of which he now presented a drawing by Mr. Connolly. The testicle is enlarged; the tunica albuginea from an eighth to a quarter of an inch in thickness; the substance of the testicle of a dull yellow colour, contrasting strongly with the pinkish-grey of the healthy gland; the tubuli being found in the microscope larger than natural, and not containing spermatozoa, but only seminal vesicles.—April 16, 1864.

Pericarditis.—DR. HENRY KENNEDY exhibited a specimen of acute pericarditis, complicated with blue pneumonia, and double pleuritis, the amount of lymph on the pleura being small, but the liquid effusion, on both sides, very considerable. The diseased parts were taken from the body of a girl, aged 20 years, who was admitted, on the 14th of March, into Cork-street Hospital. She laboured under fever, the symptoms of which were unusually high, the pulse from the very first beating 140; the pain was of a most intense character, and the general distress very great. On the second day after admission some of the larger joints presented all the characters of acute rheumatism; but there was also severe pain where there was no swelling. Though the signs of pericarditis were looked for again and again, *frottement* could not be detected; but the condition of the lungs was easily diagnosed. Treatment seemed to be utterly powerless, and the patient got no relief from her great suffering; the disease lasted fourteen days, and seemed to partake of the nature of “diffuse inflammation;” and this idea was confirmed by the fact that throughout the left lung there were scattered nodules of lymph, quite independent of the blue pneumonia at its base. The most remarkable feature in the history of the case was the absence of what was justly considered the most diagnostic sign of pericarditis—*frottement*. The pericardium presented a fine specimen of recent inflammation; lymph was copiously deposited, and presented a reticulated appearance, whilst the liquid effusion was very moderate. The slightest possible adhesions existed anteriorly, and were broken on merely raising the front of the pericardium; so that all the conditons were present which ought to have afforded a *frottement*, and yet it was not heard. The only explanation he could offer was, that the very rapid action of the heart prevented development. A *bruit de soufflet*, it was well known, would disappear from this cause; was it not possible that, under similar circumstances, a *frottement* might not be developed?—April 16, 1864.

Congenital Malformation of the Left Upper Extremity.—DR. BARTON presented a cast and preparation illustrative of a singular arrest of development of the left upper extremity, and gave the following account of the case:—

"The individual in whom this remarkable deformity occurred was a young man, aged 29 years, who called on me about eighteen months ago, complaining of many of the symptoms of phthisis. While he was taking off his clothes to have his chest examined, I observed that the left sleeve of his coat hung loose, and asked him how he had lost his arm. He replied that he had not lost it, for he never had a left arm. His clothes being removed, a bony prominence was seen, extending upwards for about two inches where the shoulder should have been. This was the acromion process; and so prominent was it, that, to prevent the skin ulcerating, he was obliged to wear a soft pad under his coat. About three inches below this prominence there projected from the integument a finger and thumb, having apparently no connexion with the scapula, and merely attached to the skin. They were natural as to heat and sensation, but he had no power of moving them. There was a clavicle of normal length, but directed very much upwards and backwards from its sternal extremity.

"About a fortnight ago he died of phthisis in the Adelaide Hospital. A cast of the side having been taken, the clavicle, scapula, and rudimental hand, were carefully removed. Examining each of these parts in detail, we find the clavicle strong and large at its sternal extremity, gradually diminishing in size and strength as it passes outwards; the inner curve occupies nine-tenths of the whole length of the bone; the outer curve forming a little hook at its extremity, where it rests on the acromion. The scapula is not more than half its natural size, and its angles are remarkably pointed. The coracoid process is represented by a bony tubercle below the prominent acromion; there is no articular surface, but a dense fibrous tissue connects this tubercle with the rudimentary hand, which projects three inches from the skin.

"The hand consists of a thumb and a finger, the former being composed of a metacarpal bone and two phalanges, the latter of a metacarpal bone and three phalanges. There are no separate carpal bones, but at the base of each metacarpal there is a sort of tubercle, which seems to represent the trapezium and os magnum.

"As regards the nervous supply of this representative hand, the median sends branches to the thumb and outer side of the finger; while the ulnar supplies the inner side and the skin.

"Although there are no muscles connected with these fingers, the two flexor tendons are arranged and inserted as usual; the flexor profundus, after perforating the tendon of the flexor sublimis, passes to the last phalanx, the latter being inserted into the second phalanx. The trunk of the body, the right arm, and both lower extremities, were developed in a perfectly natural manner.

"In this remarkable case, we have in a body otherwise perfectly formed the left clavicle altered in shape, the scapula but partially formed, no humerus, radius, ulna, or carpal bones, two metacarpal, and five phalanges,

twenty-three of the thirty-two bones of the extremity being entirely wanting.

"We cannot suppose that this state of parts was produced by intra-uterine amputation, for there is no stump, nor in any of the cases described by Dr. Montgomery, or by Dr. Simpson, were there any fingers, such as exist here."—*April 16, 1864.*

Stricture of the Pylorus.—DR. STOKES said, that Mr. O'Ferrall had requested him to lay before the society a specimen of stricture of the pylorus, with extraordinary occlusion of the orifice. The patient had the usual attacks of vomiting, throwing up great quantities of fluid, and asserting that she vomited a great deal more than she swallowed. Previous to the specimen being brought into the room, Dr. Stokes tried to force the contents of the stomach through the pyloric orifice, but could not succeed in doing so. It was completely surrounded by a large indurated mass, which engaged the coats of the stomach over an extent of about three inches, giving them a leathery hardness, which terminated abruptly in the healthier structures. The duodenum was not at all engaged in the disease; the stomach was very much distended, and was full of fluid. It was unnecessary to enter particularly into the details of the case, as it in no respect differed from those already brought under the notice of the profession by Mr. O'Ferrall.—*April 16, 1864.*

Absence of the Tongue.—DR. BANON detailed a remarkable case, and exhibited a specimen in which the tongue was absent for the greater portion of the patient's life. The patient came under his notice in the month of June last year, having been committed to the Richmond Prison as a vagrant, on the 1st of that month, and dying eight days subsequently in the prison hospital, of bronchitis. He was upwards of sixty years of age, and stated that generally his health had been good. Dr. Banon, on first seeing him, was struck with his very imperfect articulation, and still more so by his inability to protrude his tongue on being asked to do so, and the total absence of that organ which a closer examination revealed. On opening the mouth, nothing resembling the tongue could either be felt or seen; and the parts now exhibited (including the lower jaw, palate, pharynx, and larynx), present almost the same appearance as during life. The interior of the mouth presents a perfectly smooth surface (not even a projection indicating the former site of the tongue), covered with mucous membrane, and becoming firmer as the finger approached the front of the epiglottis. Beneath the mucous membrane are a few muscular fibres, with abundant cellular tissue. The epiglottis, larynx, and pharynx, and in fact all the surrounding organs, appear to be perfectly normal. The history Dr. Banon was enabled to obtain from him of his case was, that when a child he was attacked with ulceration of the tongue, which he

attributed to a habit of placing copper coins and buttons in his mouth, and retaining them there. The ulceration continuing, and his articulation becoming affected, he applied to some of the hospitals, but without obtaining any relief. The tongue gradually disappeared, and his articulation became so bad that he could not make himself understood; but after the lapse of some years it improved so much, that, with the exception of not being able to pronounce certain words, he suffered but little inconvenience. His deglutition was never seriously affected. Dr. Banon was at a loss to fix on the exact nature of the disease which resulted in the destruction of the tongue in this case. That it was not syphilitic ulceration may be inferred from the early age at which the patient was attacked, and his subsequent excellent health. Whether the disease was atrophy or ulceration, or could have resulted, as the patient thought, from the contact of the copper coins, are questions Dr. Banon considered worthy the attention of the society. Cases of absence of the greater portion of the tongue from operation or disease, and, in former times, from malefactors being condemned to have it removed, are recorded, and it is even stated to have been congenitally absent; but it is seldom indeed that so complete an absence of the organ has been seen as in the case now exhibited to the society. The gradual improvement of the articulation which occurred in this case has also been noticed by Louis in a memoir in the 5th volume of the *Memoires de L'Academie Chirurgicale*, in which the individual in whom the greater portion of the tongue was absent suffered at first from very imperfect articulation and deglutition, but gradually improved in these respects in a very marked degree. In Malgaigne's edition of Ambrose Paré, 1840, Tom. II., p. 608, a description is given of a case of a man who had his tongue almost completely cut off, who lost the use of speech completely for three years, but was afterwards enabled to make himself understood by words, by inserting under the remaining stump of the tongue a thin slice of wood. Dr. Banon regretted that the history of this case, which he had obtained with great difficulty, owing to the sinking state of the patient when he first saw him, was not more perfect, as he was sure the society would agree with him in considering the case and the state of parts which he had now the honour of exhibiting, as most rare and interesting.—April 16, 1864.

Abscess between the Esophagus and Trachea.—Tracheotomy.—DR. HAYDEN said that the specimen which he had to exhibit to the Society was taken from the body of a man, aged fifty years, who was admitted into the Mater Misericordiæ Hospital on the evening of the 12th of April. He had supported himself by keeping a fruit stall in the neighbourhood of Dublin, and had been under treatment for a severe cold a month previous to his admission. On the evening of the 8th of April he was suddenly attacked with symptoms of difficult respiration, and slight dysphagia;

beyond this they were able to learn nothing of his previous history. When he saw him on the morning of the 13th of April, for the first time, he was suffering from symptoms of imminent asphyxia. The surface was cold, the extremities livid; and he was languid, and had a leaden-coloured aspect. He could swallow even fluids with difficulty; the pulse was rapid, feeble, and intermittent, and there was a loud laryngeal stridor. The chest was universally resonant; but, owing to the small quantity of air that entered the lungs, it was not possible to obtain satisfactory evidence as to the state of those organs from a stethoscopic examination. There was, however, no evidence of organic disease of the lungs or the vascular system; it was therefore thought advisable to perform the operation of tracheotomy, which was done on the 13th, and was followed by immediate relief. His surface became warm, the pulse came down from 126 to 90, the temperature being maintained at about 65. He was better able to swallow a small quantity of liquid food, and his breathing became easy. He slept tolerably well, and went on satisfactorily up to the 18th. At eleven o'clock on that night, he (Dr. Hayden) was hastily summoned to see him, and on arriving at the hospital found him on the verge of asphyxia. There was copious effusion into the bronchial tubes, and loud bronchial râles were to be heard over the chest. The pulse was rapid and feeble, the surface was cold, and the extremities livid. He raised him in bed, made him lean forward, and encouraged him to muster as much strength as he could to make a forced expiration. He did so, and about a pint of pus gushed out from the tube which had been introduced into the trachea. This gave him immediate relief. He ordered him stimulants, and found him next morning in *statu quo ante*. Two days subsequently a second unfavourable change had occurred. His face had become flushed; the pulse, although sustained at 90, was much less in volume than before. His breathing was hurried, and he was exceedingly restless. He made a close examination of the chest, but there was no evidence to be deduced from it beyond the existence of loud bronchial râles which pervaded the whole of both lungs. Stimulants were continued, and the patient was able to take some liquid nourishment. He should have added, that from the 18th of April he was able to take solid food, and to speak, by placing his finger on the tube in the trachea, and also to make several acts of inspiration through the normal passage. On the 21st it was evident that he was sinking, and he died on the 22nd.

Autopsy.—There was a total absence of organic disease of the vocal chords or epiglottis, as they surmised from the history of the case, and as he was induced to infer from the fact, that on making a close examination of the pharynx he was able to see that the base of the epiglottis presented the normal condition. The mucous membrane covering the arytenoid cartilages was somewhat thickened. On detaching the œsophagus from its connexions with the posterior surface of the cricoid, they found

a vast cavity, which had been a short time previously filled with pus, but which was now empty. This cavity extended downwards between the œsophagus and trachea to the posterior mediastinum, where it ended in a *cul de sac*. It had likewise extended upwards to the larynx, and eroded the base of the arytenoid cartilages, detaching them from their articulation with the cricoid, and forcing them forwards upon the glottis; this, no doubt, was the principal cause of dyspnea. The pus had thence descended in front of the posterior portion of the cricoid, detaching its lining mucous membrane, and had eroded and denuded the posterior surface of that cartilage. The cavity had extended laterally so as all but completely to insulate the œsophagus. On opening the œsophagus itself, he found a large ulcerated passage formed upon its anterior wall, by which the contents of the tube had passed between the œsophagus and trachea. The margins of this opening were bevelled at the expense of the mucous surface. The external surface was much less extensively ulcerated than the interior surface, clearly showing that the disease had originated on the latter. The cavity, which must have very recently been filled with pus, was quite empty; and the question then arose, what became of its contents? Was it possible to connect the evacuation of the cavity with the occurrence of threatened asphyxia and the copious expulsion of pus, for the first time in the history of the case, on the night of the 18th? After a very long search, he found an opening exceedingly small between the cavity in which the pus had been and the interior of the trachea through its posterior wall. The lining membrane of the trachea was deeply congested, as was also that of the bronchial tubes, which he had laid open in their passage through the lungs. The elastic structure of the posterior walls of the trachea was greatly hypertrophied down to its bifurcation. The heart was examined, but not with the expectation of finding any special disease of that organ, inasmuch as there had been no evidence of such during life. There was a considerable deposition of fat, and in the right auricle a large thrombus. It passed from the right auricle into the right ventricle, occupying a very considerable portion of that cavity. From the right ventricle it passed into the pulmonary artery, with the valves of which it was connected; and was traceable upwards through that vessel in the form of a cylinder occupying a small portion of its cavity, and at its bifurcation undergoing a corresponding division. There was also one in the left auricle; it passed downwards into the ventricle, but was not so large as that upon the opposite side; it was traceable from the left ventricle into the aorta as far as the origin of the arteria innominata. The history of the case was interesting in many respects. The affection had not existed for more than a month previous to the admission of the patient into hospital: this circumstance had induced the belief that the case was one of acute laryngitis, but an examination disclosed no disease of the epiglottis.

There was negative evidence as regarded disease of the great vessels and lungs; yet the man was nearly suffocated, and must have died of asphyxia in a few hours if he had not been relieved. Was the operation of tracheotomy justifiable under the circumstances? The result of it at all events was, that the man lived for nine days afterwards in comparative ease and comfort.

The disease would appear to have originated in ulceration of the œsophagus, which extended into the lax areolar tissue between that tube and the trachea, there giving rise to inflammation and the formation of abscess, which, by its extension and pressure upon the glottis, gave rise to the symptoms of asphyxia. The pus subsequently passed into the trachea, and filled the bronchial tubes, causing the second attack of dyspnea on the night of the 18th. The lungs were in that state which might at first sight be considered as the third stage of pneumonia; but they floated in water, and were simply injected with purulent matter.—*April 23, 1864.*

Fracture of the Neck of the Femur.—PROFESSOR R. W. SMITH, exhibited a specimen of fracture of the neck of the thigh bone within the capsular ligament, taken from the body of a female, aged 60 years, who died last November.

In February, 1858, while an inmate of a charitable institution in Dublin, she was thrown down, and fell upon her hip. She got into bed, and made no complaint about the matter, so that the injury was not discovered for a considerable time. The foot was everted, and the limb considerably shortened. In a few months she was able to walk about. She lived for five years after the occurrence of the accident.

Upon examination of the joint after death, the injury was found to consist in a fracture of the cervix femoris within the capsular ligament, with mutual impaction of the fragments. The fracture was firmly united by bone throughout its whole extent. The welding together of the fragments was clearly marked by the consolidation of the osseous matter along the course of the lesion, and which contrasted remarkably with the reticular tissue upon either side of it. The union was not affected by maceration for six months.—*April 23, 1864.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-SIXTH ANNUAL SESSION, 1863-64.

DR. DENHAM, President.

DR. HAYDEN on *Circumscribed Phlebitis of the Lower Extremities after Labour*.—The two following cases of circumscribed adhesive phlebitis of the lower extremities, occurring after labour—one attributable, at least in some measure, to a local cause, but both apparently traceable to a constitutional origin, or blood-crisis—possess some interest in reference to prognosis and treatment, and suggest profitable reflection in regard to the pathology of blood-coagulation in the living body, and the changes which the clot may subsequently undergo.

CASE I.—Mrs. K., aged about thirty-six years, nervous and anemic, and suffering from varicose enlargement of the superficial veins of the left leg and thigh, was confined of her fifth child in March, '63; labour was at the full term, and natural; recovery progressed satisfactorily till the fifth day, when sharp febrile symptoms set in, and the patient complained of pain and tenderness in the left thigh. On examination this part was found swollen, and the internal saphena, from the knee to the groin, hard and tender, and its course indicated on the surface by a faint pink streak. Leeches were applied, followed by stupes; the limb was swathed in flannel; mercury with chalk administered in three-grain doses every third hour, till the gums became slightly affected; anodynes were necessary to procure sleep; subsequently turpentine stupes and tight bandaging were had recourse to. At the end of a week the limb had resumed its natural condition, and convalescence was established.

CASE II.—Margaret G., aged twenty-one, married one year, and confined of her first child on the 5th of last January, was admitted into the Mater Misericordiæ Hospital on the 25th of that month. Labour was natural; the child, though at the full period, was unusually small, and died a fortnight after birth. The patient's health had been generally delicate, and for seven months before confinement her appetite greatly impaired. A fortnight before being admitted into hospital, and a week after confinement, she was attacked with acute pain in the left leg, which rendered her unable to put it to the ground. Oedema of the foot and leg followed in a day or two. When admitted she was anemic in a high degree; pupils dilated, even in strong light; pulse 126, sharp and irritable; skin hot and dry; and acute pain and tenderness complained of in the left leg, which rendered movement of any kind all but impossible; the left posterior saphena vein, from the ankle to its termination in

* These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

the popliteal space, was hard, knotty, and acutely sensitive; the heart's action was quick, and its sounds normal, but there was venous murmur in the neck. On the 30th of January inflammation had extended to the lower two-thirds of the thigh; and on the 31st quite to the groin. The femoral vein now felt like a hard cylinder, and was acutely tender to the touch, the thigh much swollen, and the patient in a state of high febrile excitement.

Under the treatment employed, which consisted in leeches to the groin, warm poultices, aperients, and anodynes, pain was alleviated, and the patient obtained some repose. Mercury with chalk, and Dover's powder were administered in small doses; and on the 9th of February, the leg and foot having become greatly swollen, but not sensitive to pressure, camphorated mercurial ointment was rubbed in in the course of the veins, and the entire limb, from the toe to the groin, was tightly swathed in a flannel roller.

Diarrhea having now set in, the further use of mercury was suspended; opiate astringents were given, and, subsequently, iron and quinine in moderate doses. The patient's condition underwent a marked improvement; the pulse had come down to 102, appetite and sleep much improved, and œdema had disappeared; when, on the 21st of February, the right leg and thigh were simultaneously attacked, and went through the same course in all particulars as the left. The same treatment was likewise employed, with the exception of mercury, which on this occasion was studiously avoided.

When the inflammatory symptoms had been subdued liquor potassæ was given in ten-drop doses every third hour, and a stimulating embrocation applied to the limb. On the 1st of March was free from pain; pulse ninety-six; urine alkaline; and œdema rapidly disappearing. March 10th, œdema of the limb and rigidity in the course of the veins having entirely disappeared, compound iron mixture was substituted for the alkali, porter and nutritious diet were given, and the patient was allowed to sit up. At the present time her condition is undergoing rapid improvement; she is gaining flesh and colour, and able to take moderate exercise in the ward.

The first of these cases furnishes a good example of phlebitis, dependent, at least proximately, upon previous varicose distention of the veins affected; but that this circumstance does not afford a full explanation of the attack will probably be admitted when it is borne in mind that an interval of five days had elapsed between delivery and the first manifestation of symptoms of phlebitis, during which the enlarged veins had resumed their normal dimensions, and the patient been confined to the recumbent posture, and a low diet. Varicose veins, under other circumstances, are by no means commonly the subject of inflammation; on the contrary, they appear to enjoy a certain immunity from it, as witnessed

in the application of styptics and caustics with impunity to a ruptured varicose vein.

During the last weeks of pregnancy, and for some time after parturition, the blood contains an excess of fibrin, which must predispose to vascular obstruction. Dr. Simpson says, "during the puerperal condition, the blood is more loaded with new materials, intended, some for excretion, and some for secretion, than at any other term of life, and, hence, is specially liable to diseased changes under the superaddition of any exciting or septic causes; for the uterus, during the first weeks after delivery, is becoming involved and absorbed by a kind of retrograde metamorphosis, and the effete materials resulting from its disintegration necessarily first pass into the blood before they are ultimately discharged and depurated from the system; there is an excretory action going on in its interior in the form of the lochial discharge, and the elements for the formation of a new and important secretion, the milk, are present in the circulation." In both the cases, but more markedly in the second, there were likewise anemia and feeble action of the heart, which, by weakening the *vis a tergo*, would favour stasis and coagulation of the blood, especially in the distant subcutaneous veins, which derive no aid to their circulation from muscular pressure or adjacent arterial pulsation. Thus, perhaps, may be explained the occurrence of coagulation and its consequence, inflammation, *primarily* in the saphena veins in both cases; otherwise, assuming with Dr. Lee that *post partum* phlebitis of the lower extremities, or phlegmasia dolens, originates in the uterine veins, and extends by continuity downwards, we should be at a loss to account for the immunity enjoyed by the femoral vein at the onset of the attack; and in the second case given, for a period of five days after the occurrence of inflammation in the saphena.

It will be perceived that I look upon coagulation of the blood as constituting in these cases the first step in the series of morbid changes observed, and inflammation of the containing vessels only as the second. I should be disposed to add, that inflammation of the vessels was, in both cases, the direct consequence of coagulation of the blood within them, favoured by the predisposing causes previously adverted to.

If this view be correct, it would follow that the indications for treatment are two, namely: whilst combatting the local inflammation by strictly local means, to quicken excretion through the bowels, the kidneys and the skin, and to correct the tendency to blood coagulation by administering alkalis. This latter class of remedies should be given in sufficient quantity to render the urine alkaline, and continued for some time after the appearance of improvement.

I would eschew mercury, except as a local deobstruent, in all similar cases, as being pre-eminently an impoverisher of the blood, by disintegrating, or favouring disintegration of, the red corpuscles.—16th April, 1864.

DR. FOOTE exhibited the dried skull and skin of the head of a double-faced lamb.—21st May, 1864.

DR. H. KENNEDY read a paper on *Abdominal Tumours, in relation to their Diagnosis*, printed at page 1.—21st May, 1864.

DR. CRONYN read a *Case of Labour with Complete Occlusion of Vagina, Successfully Treated by Incisions*.

Margaret Scott, aged twenty-seven, wife of a private soldier, 11th regiment, admitted to hospital April 11th, at 4, p.m.

From the character of the pains, I concluded she was in the second stage; and she stated her labour commenced at 11, p.m. on the 10th. On making an examination, I discovered there was complete occlusion of the vagina, about half an inch from the vulva. The pains were regular and strong; but although I believed the presentation to be a head, it was not pressing as yet. The fetal heart was distinctly audible in the right iliac region. On inquiry I learned that about a year previously she had a protracted and difficult labour at Spike Island, which was terminated instrumentally; and that she was very ill and sore for some months afterwards. Dr. Kirkpatrick saw the case with me, and shortly afterwards Dr. Denham. It was then decided that an operation must be performed to open a passage in the vagina; and as the pains had become very strong, and no impression made on the occlusion, it was evident no time should be lost. Accordingly, at 5 30, p.m., or an hour and a-half after admission, the patient was placed on a table, and brought fully under the influence of chloroform. At this time the head distended the walls of the vagina at each pain. A catheter was passed into the bladder, and left there; and Dr. Denham, with a bistoury, carefully made an opening in the septum; and, on a director, made an incision forwards and backwards, and one at either side; then dilated slightly with the finger, so that an opening somewhat larger than a crown-piece was formed. At the first incision the liquor amnii escaped in large quantities, and continued to drain away during the operation. There was very free hemorrhage from the lower part of the wound, which was with difficulty controlled by a compress of lint dipped in a solution of perchloride of iron, and pressure with the point of the finger. Four ounces of wine having been administered, the patient was removed to bed at 6 15, p.m.; the labour went on favourably, and in three and a-half hours a healthy female child was born without further interference, the placenta being expelled five minutes afterwards. She was ordered a full anodyne.

April 12th, 7, p.m., had a good night, slept well, and made water twice; the third day complained of some tenderness over the uterus, which was relieved by turpentine stupe, followed by linseed meal poultice; ordered

an aperient, which acted freely. Continued to progress without any bad symptom; the vagina was syringed twice daily, and the finger introduced to prevent union of edges of the wound.

April 20th, went to convalescent ward, and next day an erysipelatous blush appeared on the nose and face, which yielded to treatment after three or four days, the vagina continuing healthy. Meantime, although the finger was regularly passed every day, the edges of the wound gradually united, as the patient refused to submit to any treatment with the view of making a permanent cure.

On April 30th she was discharged at her own request, the vagina at this time being very much contracted, only admitting the finger. Her general health was very good.

This case being of a novel character I have thought it might be of interest to the society, as showing the advantage of early operation before the patients strength was exhausted. Dr. Sawyer has detailed the particulars of a similar case in the twelfth volume of the *Dublin Quarterly Journal*, and in which a similar operation was performed with success. I think the result of these cases proves the safety of the operation, and entitles it to a preference over the Cesarean section, which would seem to be the only alternative.—*May 21st, 1864.*

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1863-64.

DR. CUMMINS, President.

Abscess of the Cerebellum. By F. ALBERT PURCELL, M.D.

The pathological specimen which I bring before the society this evening is that of an abscess on the left lobe of the cerebellum, with the petrous portion of the temporal bone which is necrosed.

Ellen Callaghan, aged twelve, pale, and of strumous appearance, was admitted to Hospital on November 14th, 1863, suffering from great pain in her left ear and the back and left side of the neck.

The mother states that a purulent discharge has been running from the left ear for more than two years, and that she was during that time deaf in the same ear. She can hear with the right ear, is smart and

These reports are supplied by Dr. Curtis, Secretary to the Society

intelligent, and answers any question put to her. That in October, 1862, she was attacked with scarlet fever; the purulent discharge and deafness remained unabated. That about four weeks ago she began to complain of acute pain in her left ear, for which her mother was recommended by some of her friends to try her with Turkish baths. She gave her two; after which the discharge became suppressed, followed by excruciating pain. A swelling formed down the left side of the neck, having no appearance of pointing. Some six days after the baths the child fell heavily forward on its forehead. She got no other fall or appearance of vertigo. That on the 1st of November she got a severe rigor, and vomited.

Present Symptoms.—Is crying, from the acute pain in her left ear, and is quite deaf in the same; but hears on being spoken to loudly, and answers correctly; a slight serous discharge from the ear; she is unable to bear the slightest touch about the affected ear or left side of the neck; the muscles of the neck on the left side are rigid and contracted, pulling the head over to the left side; on protruding the tongue the tip turns to the left side; no other of the muscles of the face are affected; she lies continually on her right side; a good deal of pyrexia. No fluctuation can be felt on the left side of the neck or parotid space. Pulse weak and feeble. Ordered three leeches behind the left ear, to be stuped with hot infusion of chamomile flowers, and poppy heads; to take one grain of hydrargyrum cum cretâ with half a grain of James' powder every fourth hour; chicken broth.

November 18th.—Spent the night in great pain, starting up when severe paroxysms attack her; at 2 o'clock, p.m., she got a severe rigor.

November 19th.—A second rigor to-day at 11 o'clock, a.m.

November 20th.—A rigor at 5, p.m.; when she tries to drink she makes several spasmodic gulps before she can swallow; she, notwithstanding, calls for more, as she labours under great thirst; complains of more pain in the neck, in the left and back parts; tongue protrudes still to the left.

November 21st.—Rigor at 10 o'clock, a.m.

November 22nd.—Does not complain quite so much of pain; has great thirst.

November 24th.—Slept quietly during the night; on waking in the morning she called to the nurse for a drink, after taking which she quietly lay back and died off before the nurse left her.

Autopsy.—I was kindly assisted in making the *post mortem* by Dr. O'Sullivan, house surgeon, North Infirmary.

The face and surface of body are quite blanched. A serous discharge issues from the left ear. A putrid fœtor is exhaled from the body, being about ten hours after death. On raising the calvarium, the blood vessels of the brain are observed rather empty. Some adhesions between

the dura mater and brain. On freeing the cerebellum, on its left lobe and left border, corresponding with the left lateral sinus in the posterior fossa of the skull, there is the appearance of a clot of blood lying between the brain and bone. On breaking down the surrounding adhesions no pus whatever is present, but the contents are of a bloody strumous character; the bone opposite which, namely the lateral sinus, is denuded of membrane and necrosed. On removal of the brain, the probe can be passed down through the jugular foramen into an abscess in the deep portion of the neck. A tuberculous mass of matter lies on the left side of the medulla oblongata, between the dura mater and the bone. The entire petrous portion of the temporal bone is necrosed. On getting below the skull an abscess is found, lying deep on the upper cervical vertebra and under the occipital bone, internal to the mastoid process; this communicates with the matter on the side of the medulla oblongata, as the finger is easily shoved between the occipital bone and the atlas, and also extends upwards through the jugular foramen to the lateral sinus. The internal jugular vein passes down through this abscess in the neck quite pervious.

The left lobe of the cerebellum is considerably atrophied, and the abscess lies on the left and outer border. The substance of the lobe is softened. The vessels of the pia mater are congested over its surface, and entire base of the brain.

The other organs were not examined. It would have been interesting to see whether there were any further symptoms to conclude for death by pyemia.

Chronic Inflammation of the Intestinal Mucous Membrane, attended with Discharges of Lymph, or Chronic Croup of the Intestines. By JOHN WILLIAMS, A.B., T.C.D., Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons in Ireland, &c., &c.

Of all the medical subjects with which we are conversant, I do not think there is one more replete with interest, still at the same time, one of which so little is known, as that peculiar form of chronic inflammation of the intestinal mucous membrane which is the subject of these remarks. Insidious in its invasion, and obscure in its symptoms, it but too frequently eludes diagnosis until it arrives at a stage when unmistakable evidences of its presence are indeed afforded; but successful treatment *then* becomes, if not an impossibility, a matter of extreme difficulty.

Mucous membranes are very prone to take on an inflammatory action, which seems to be chronic from the beginning; and in many instances the products of prolonged disease are fully established ere the patient's attention be seriously arrested. The pathological changes that occur in this structure are frequently by no means in proportion either to the

intensity of the inflammation that previously existed, or to its duration. In some cases of chronic bronchitis, of many years' duration, and where the attacks were attended with severe inflammatory symptoms, the amount of turgescence and redness of the bronchial mucous membrane, revealed after death, is trifling; perhaps little more than of appreciable extent. The same is to be observed in chronic duodenitis and other intestinal inflammations. But effects the very reverse of this may also be seen, of which a familiar example is afforded in that peculiar rough or granular state of the mucous investment of the back of the pharynx and contiguous parts, the result, not, as may naturally be thought, of a diseased condition of the alimentary canal, but of mere functional derangement. The hypertrophied condition of the conjunctival villi in that scrofulous disease termed granular lids, so like the surface of a granulating ulcer, is likewise a familiar example of the insidiousness of chronic inflammation in a mucous membrane. I have often seen in this scrofulous affection, "granulations" so extensive as could only result from long-continued inflammatory action; and yet there were no symptoms of such magnitude present as would seriously arrest the attention of the patient.

The least deviation from the normal condition of the mucous membrane, in a canal of such importance as the gastro-intestinal would speedily produce, one might naturally suppose, symptoms indicative of the presence of diseased action.

Experience, however, proves that such is not the case, and that the unhealthy condition manifests itself by deranging the functions only of distant organs. But why is it so? Simply, I would say, in consequence of the intimate connexion that exists between the nerves of the alimentary canal and the cerebral, spinal, and sympathetic. In consequence of this communication, symptoms so grave as to cause much alarm are not unfrequently caused by even a temporary derangement of the digestive system. Lesions of function often occur in organs the most remote from any interference with the normal action of the stomach, and disappear when the indigestible substance has left it. But more than mere derangement of function is produced, and that not rarely, by this cause; for example, an attack of nettle-rash or other skin affection is often the penalty paid for indulgence in a shell-fish supper, or in viands that seem to exercise a peculiar influence over the stomachs of some persons. Convulsions are often caused in children by the irritation of worms in the intestinal canal. I have seen paralysis in an adult—temporary hemiplegia—produced by the presence of lumbrici in the stomach, and vanish with their ejection by vomiting. Hence it is, I would say, that the practitioner is so often in error, and drawn away from the real situation of so obscure a disease as that now under consideration.

When irritation of the intestinal mucous membrane degenerates into chronic inflammation, what before were but temporary perversions of

function in distant organs, now become persistent, and often are so well marked that the disease appears almost unmistakable, and a line of treatment pursued of which we have hereafter reason to repent.

Inflammation of the mucous membrane of the intestines not unfrequently takes on a *peculiarly modified* action, which is not, nor cannot, be discovered with absolute certainty until the stools indicate it by the presence of shreds or strings of lymph, mixed with the feces. An example of these shreds I now present for your inspection; but in the case from which these croupy membranes were taken, round strings of lymph, six or eight inches in length, resembling the *debris* of lumbrici, were often to be seen. This peculiar condition, known as "plastic inflammation" by some authors, and as "pellicular" by others, but which I think is best named chronic croup of the intestines, seems to be one and the same affection. Professor Simpson, of Edinburgh, considers it to be an "eruptive disease" similar to a chronic skin disease, and treats it as such. With this view I entirely coincide, and believe the treatment he proposes—so far as it goes—about the best; see his obstetric works, Vol. I., p. 308, to which I would direct special attention. In the *Dublin Hospital Gazette* for 1854, there are some interesting remarks by Dr. Corrigan on a case of Dr. O'Donovan's, of Belturbet.

In the *Transactions of the College of Physicians*, Vol. VI., p. 106, Dr. Powell has noticed the subject, as also have Andral, Gendrin, and Bretonneau.

Cruveilhier styles this disease, "enterite pseudo membraneuse," and we find that in 1857 it arrested the attention of the Society of Physicians in Sweden.

Abercrombie fully discusses simple inflammation of the intestinal mucous membrane in his practical little work, *On Diseases of the Stomach*; but he does not seem to recognize this peculiar inflammation, of which some of the cases mentioned by him, for example No. CXXV., evidently are well-marked instances. The difficulty of diagnosis I before spoke of, Abercrombie fully recognizes. In reference to this subject he remarks:—"Inflammatory conditions of the mucous membrane of the intestinal canal, present a subject of great interest and considerable difficulty. In the diagnosis of them, much attention is required in their *earlier* stages, because it is only at *this period* that many of them can be treated with any prospect of success; and because without very great attention they are apt to be confounded with diseases of a much less dangerous character."

The diagnosis of this *peculiar* chronic inflammation, or intestinal croup is perhaps still more difficult, for it occurs less frequently, and is consequently by no means generally recognized; while the almost exact identity between the strings of lymph passed at stool and the *debris* of worms is very apt to confound diagnosis. This occurred in the case from which

this specimen of false membrane was taken. In this individual there was ill-health for years. The stomach, the liver, and the chest, were each in turn blamed and treated for what assuredly involved them, as indicated by their lesions of function, but which did not originate in either. That rather fashionable, I was near saying protean, malady, spinal irritation, was not forgotten, and the firing iron was used. Purgatives, alteratives, and laxatives, were employed to combat the obstinate constipation which ever existed; but all proved in vain; until the administration of a strong infusion of kousso—given with a view to rid the intestines of the offending parasite, whose presence in them was very naturally suspected—revealed the real nature of the disease, by causing the discharge of large quantities of shreds and strings of lymph. For days after the “kousso” was taken, a feeling of soreness in the intestines, “as if their inner surface were scraped,” was complained of, and difficulty in walking experienced, while the *smallest* dose of any mild aperient or laxative could not *since* be endured. Enemata were, in consequence, employed, as the state of the bowels was very irregular, obstinate constipation being the general rule. It was not until the real nature of this insidious and obscure disease was recognized in the manner just described—and which treatment may have proved fatal—that proper treatment was adopted, and improvement in the health manifested.

Last May, Dr. Hutton, of Dublin, told me he then had a patient—a lady—who passed shreds of false membrane every time she menstruated. She, too, was unable to take aperient medicines; “even one teaspoonful of castor oil could not be endured,” from the irritation and distress it caused. Dr. Corrigan mentions a case, in the *Dublin Hospital Gazette* for 1854, in which ligamentous discharges from the bowels had taken place, so much resembling pieces of tape-worm that kousso had been administered before the patient came into hospital.

These intestinal discharges sometimes are moulds of the gut. I remember having heard of the case of an old gentleman in Dublin, some three years ago, in which after great distress a cast of a portion of the large intestine had been passed. When this was got rid of he recovered. One of Dr. O'Donovan's specimens, sent to Dr. Corrigan, was a “thin tubular cast of the small intestine, of dark greyish colour, with a greenish tinge; it was about thirteen inches in length, and when examined under water assumed the curve of a coil of the intestine.” The most graphic description I have met with of this obscure but highly interesting and important affection is that by Dr. Simpson before referred to. I must, however, humbly assert that his details are *incomplete*; a few symptoms I have met with are omitted in his delineation of the disease, and one in particular, which I regard, and perhaps not incorrectly, as characteristic of this peculiar inflammatory action in the intestinal mucous membrane.

The early recognition of this disease, if the *present* state of our

knowledge of the subject render such possible, is of paramount importance, as it is only then we can effectually combat with it. In addition, remedies given at a venture are in general not merely useless, but positively hurtful; and, as in the case before referred to, in which "kousso" had been administered, perhaps injurious to the life of the patient.

The earliest symptoms of chronic inflammation of the intestinal mucous membrane, are so identical with those of ordinary dyspepsia, that they are apt to be confounded with them. Indeed, by the patient they are sure to be thought such, and as constipation is generally an attendant on the affection, almost every aperient drug is, in turn, tried and extolled. Perhaps a dinner pill, pepsin, or rennet wine, are found necessary adjuncts to a bad digester. Or it may be a blue pill at night, with the accompanying morning draught, are used to awake a torpid liver. To the occasional irregularity of the bowels always present, obstinate constipation, in general, succeeds, and it is found by the patient a matter of absolute necessity to take aperient medicines, thus increasing and fixing the disease.

The fact that, when this disease is fully established no laxative medicine, however mild, can be borne, proves incontestably that the temporary relief afforded by opening medicine is much more than counterbalanced by the permanent mischief invariably brought about by it in the condition of the intestinal mucous membrane. The inflammatory action in the intestinal mucous membrane is not long in existence before we are attracted by one of the most distressing symptoms of this very obscure and intractable affection. I allude to the *persistent feeling of constriction across the abdomen*, and likened by the patient to the sensation caused by a "*string or cord tightly tied round the waist*;" and invariably accompanying this symptom is a sensation of fulness or tympanites referred to the lower part of the abdomen, but often to the region of the cœcum alone, while, on examination, *none is found to exist*. Another symptom very characteristic of inflammatory action in the intestinal mucous membrane, is a feeling as if hot water were passing along the entire tract; but this unpleasant sensation rarely, I should say, advances to the condition of pain.

As may be expected, this obscure and peculiar inflammation of the internal investment of so important a canal soon reacts on other parts, both from continuity of surface and from sympathy. Accordingly the back of the pharynx becomes raw and granular. In some instances it presents such elevations that they may not inaptly be resembled to a true papular or tubercular eruption. Aphthous ulcers are sometimes seen on the gums and inside the cheeks, while prolapsus ani and excoriations about the anus show the extension of the disease at the lower extremity of the intestinal canal. Catarrh of the bladder sometimes occurs in a very aggravated degree. On the skin herpetic eruptions take place, and sometimes persistent patches of eczema or psoriasis are seen on the

extremities. The legs and feet are almost always of icy coldness, and numb, and the gait becomes very unsteady and tottering. A sense of tingling—known as pins and needles—is complained of in the fingers, and an inability to hold small articles, such as a writing pen, with them. The speech becomes thick and indistinct, such as takes place in paralysis. The character of the urine often changes during the course of the disease. At one time it presents a deposit of lithates, while at another it is loaded with phosphates, and the vessel is coated over with ill-conditioned tenacious mucus. It is curious to notice that, notwithstanding the serious symptoms just described, there is little manifestation, in some instances, of what is really going on. There is no sensible loss of flesh, and the appearance of the patient does not, in general, indicate the presence of disease. Persistent pallor of the countenance is, however, sometimes present, though there be little emaciation. One symptom I have noticed as constant; this is a peculiar clammy or damp state of the palms of the hands, notwithstanding the dry and harsh state of the skin. The feces do not present anything abnormal in their appearance until the disease is pretty well established. Careful observation will then remark shreds or strings of lymph, presenting different appearances and degrees of organization, and adhering to the outer surface of the hard and blackened feces. The specimen of false membrane I now exhibit to you is but one variety of what was passed by the same patient. I have seen some, as I before mentioned, on many occasions six or eight inches in length, cord-like, and resembling closely the empty coats or skins of lumbrici.

Some of the specimens noticed by Dr. O'Donovan appeared like "bruised worms," which is the usual appearance of those intestinal discharges of lymph.

I think I am correct in saying that the morbid conditions of the mucous coat of those organs and cavities that can be seen, are in every way identical with diseases of the mucous lining of the intestines. This is prone to assume a chronic character, and experience shows us that, as in the case from which this false membrane was taken, the organic changes in the mucous investment of the bowels are not generally proportional to the distress of the patient, while mere functional derangement—as seen in some cases of simple dyspepsia—may happen to mislead the practitioner. The pustules, or aphthæ *seen* on the tongue, gums, or inside of the cheeks; the papular or *tubercular* eruption *seen* on the back of the pharynx; and many others connected with the labia and uterine organs of the female—convey an adequate idea of the *unseen* condition of the intestinal mucous membrane.

When, therefore, dyspeptic symptoms are complained of, *the sensation as if a cord were tied tightly around the abdomen experienced*, and a sense of abdominal fulness, *without* the existence of such felt; in addition, a raw and granular condition of the back of the pharynx to be seen,

accompanied with a bad taste in the mouth; tingling in the fingers; *loss of power*, with numbness and coldness of the lower extremities; an unsteady gait and fatigue felt, particularly after walking (the legs appearing as if semi-paralysed, and dragged by the patient as in a case of hysterical paralysis); thick and imperfect articulation; tinnitus aurium; a feeling of heat, or as if hot water was passing through the intestines, experienced; urine presenting lithates, but more often phosphates; frequent attacks of hiccup; great augmentation of the Schneiderian secretion; purpuric spots on the skin, or herpes, and sometimes psoriasis or eczema present: we may conclude, I think, with *absolute* certainty, that we have a chronic inflammatory condition of the intestinal mucous membrane to deal with.

In some cases there is great debility, with marasmus, but in others the general appearance of the patient is good, and is by no means indicative of disease. In such cases the appetite is so good as to be apt to mislead the practitioner. In *all* cases a most indescribable sensation or uneasiness is referred to the abdomen. This feeling is persistent, though it varies in intensity, and is often modified by food. The memory and other intellectual powers are, as may be expected, frequently impaired. The nervous system becomes quite unstrung; and the worst symptoms of aggravated dyspepsia unfold themselves. In some instances the functions of the stomach appear intact, and the general appearance, &c., so good that the distress and uneasiness, experienced and complained of by the patient, are often attributed to nervousness, by friends, and taken little notice of by the physician, whose skill is but little valued henceforth by the former. Happily those obscure and serious abdominal affections are now more generally recognized than they were, even so recently as 1854.

All uncertainty as to the real nature of this disease is removed when, perhaps, after the administration of some very active purgative or vermifuge, as in the cases before mentioned, in which koussou had been taken, a large quantity of shreds, or strings of false membrane, had been passed from the bowels; but this is not the period to deal effectually with this obscure disease. Before I proceed to make a few remarks, as to the treatment of this peculiarly modified inflammation, I would beg to draw attention to the serious morbid conditions found, after death, in the intestines, of which there had been no indication whatever during the lifetime of the patient. Look, for example, at *many* of those cases that succumb to perforating ulcer of the intestines. The peritonitis, resulting from extravasation of the contents of the bowels, is the very first symptom that draws attention to the abdominal cavity. Curling's ulcer of the duodenum—the real cause of which, I do not think, is at all recognized—“seldom occasions any very marked symptoms to indicate the nature of the mischief.”

In a case, mentioned by Dr. Jameson, in which the operation for

strangulated hernia had been performed, an ulcer in the duodenum, "evidently not of recent origin," was found, the existence of which there never had been any reason to suspect.

It is plain, in my mind, that we are too prone to consider as cases of simple dyspepsia what are far more grave, and hence is one reason why it is often so difficult to remove that distressing train of symptoms common to both diseases. Be this as it may, one thing is certain, that if we do not diagnose this obscure inflammatory condition of the intestinal mucous membrane in its early stage, our treatment is almost sure to be the reverse of what it ought to be. From my experience I believe the view of this subject taken by Professor Simpson to be the correct one; for otherwise, I have no doubt, we would treat the disease in vain.

Of all remedies I would place arsenic first. The liquor-arsenicalis, known as Fowler's solution, I think the best preparation. I need scarcely say there is need of very great care in the administration of this drug. One or two drop doses should be continued for a long time. If any unpleasant symptoms arise from the accumulation of the doses, the medicine must be stopped for a time. Frictions of warm olive oil to the belly are very useful, both for the restoration of strength and the recovery of the peristaltic action of the intestines—brought about in a great measure by the friction.

As aperient medicines cannot, in most cases, be borne, lavements of tepid water must be used. Sometimes these must be made somewhat stimulative by the addition of a little soap, otherwise the upper bowels, in which the disease is often situated, are not excited to action, and the feces are, in consequence, retained, thus causing great distress. One of the most gentle methods of relieving the bowels is with a plain tallow candle suppository. Stimulants of all kinds I have found hurtful in the extreme, and therefore cannot recommend any. However, if it be thought absolutely essential to give one, I think Manzanilla sherry the best I know of. Abercrombie suggests bismuth, lime water, gentian, and logwood, if the bowels be relaxed. Dr. Corrigan, fearing stricture of the intestines from thickening of the mucous membrane, or submucous tissue, recommends the exhibition of mercury in cases of plastic inflammation.

Hydriodate of potash, too, may be given; but I believe the treatment suggested by Dr. Simpson's opinion of this intractable disease, and which experience bears out, is the only successful plan. Great care must be paid to diet, for there is always an insatiable craving for unfit food. I shall not enter into details, but, in this respect, the least irritating food—what is not likely to occasion tympanites—should be prescribed.

It is of paramount importance to attend to the state of the skin in this disease, the reason of which is obvious. Of hyosciamus, suggested by Dr. Corrigan, I must speak very highly; this medicine, by allaying the intestinal irritation, by which the obstinate constipation is generally

caused, produces an evacuation. *Asafetida* will be found the best remedy for the removal of tympanites. Counter-irritation to the abdomen is of much service. I would also recommend a flannel roller, eight or ten inches wide, to be worn round the abdomen; this affords support and comfortable warmth to the intestines.

Temperature, too, must not be neglected, as it seems to exercise a great influence over this disorder. Some patients bear heat well, and are much better in Summer than in Winter; others, on the contrary, find the bracing season of Winter, particularly if the air be dry, to agree best with them. Change of climate, when the patient can afford it, may be ordered. But I would not advise long sea voyages, as the want of *fresh* meat and good water may be sadly felt.

And now, in conclusion, I must again remark that I know of no disease more important or difficult to manage—and one which I trust will soon be better known than it is at present by the members of our profession—in the whole range of medical subjects, than this peculiar plastic or pellicular inflammation of the intestinal mucuous membrane, better called, I would say, chronic croup of the intestines.

Medullary Carcinoma of the Liver, partly in the Suppurative Stage; Jaundice Complete, from the Closure of the Ductus Communis Choledochus by a Cancerous Mass. By JOHN POPHAM, A.M., M.B.

James Ryan, aged sixty-five, was admitted into the Cork North Infirmary October 23rd, 1863, with jaundice. His appearance is cachectic but till some weeks ago he has enjoyed good health. He has a large hydrocele, and it was to get it tapped that he entered the hospital. The jaundice is only of some days' duration, and he can assign no cause for it. He has never been intemperate in his habits.

At present his whole body is deeply jaundiced; the face most so, being almost orange in tint; indeed the colour is so deep that, contrasted with another case of jaundice in the same ward of a greenish hue, they went by the names of "orange and green." His tongue has a central yellow fur; defecation is difficult; alvine discharges fetid and clay-coloured; nausea; lancinating pains in epigastrium, shooting to umbilicus and right side, with soreness on pressure; perspiration copious; spirits wretchedly depressed; pulse 70; urine about forty ounces, porter colour; no appearance of any enlargement of the liver, but, owing to the tension of the recti abdominis muscles, the examination is not conclusive. He was put upon dilute nitro-muriatic acid, and six leeches were applied to the epigastrium.

October 30th.—Bowels obstinately confined.

Ordered to omit the acid mixture as it disagreed, and to take pills of taraxacum, aloes, and hyoscyamus, every night.

November 7th.—Epigastric region full and tender; dulness, on percussion, below right mamma. On heating the urine to 212° Fahr., and adding hydrochloric acid, it is changed to a deep grass green.

Ordered a blister over the epigastrium, and to take taraxacum and soda, also wine and beef-tea liberally.

November 14th.—He has taken small doses of hyd. cum creta and dried soda, during the last four days, without any good effect.

Ordered to omit them, and also the taraxacum draughts, and to take five grains of the hydrochlorate of ammonia every four hours.

November 18th.—Hiccough has come on; the lancinating pains extend below the umbilicus, and are chiefly felt near the mesial line; abdomen very rigid; vomiting constant; bowels now free of themselves once daily; wine to be increased; omit the mixture.

November 19th.—A small tumour, for the first time, is felt midway between epigastrium and umbilicus; the contraction of the recti muscles is so great, that to feel it the hand must be pushed under them; epigastric pulsation; salivation, or rather pyrosis; vomiting of a darkish fluid, with a yeasty surface; the alvine discharges were carefully examined for fat, but without finding any; spirits so sunken that when spoken to he cannot refrain from tears.

Ordered to rub croton oil liniment over the tumour; opiates to relieve the pain.

November 22nd.—The tumour has become more distinct, and has extended towards the umbilicus; it is fixed, not shifting with the position of the body; decubitus, all through the case, only possible on right side; urine deep coloured as before; sp. gr. 1016, no albumen in it; it tinges blue litmus, green—and the pink, a muddy yellow.

November 27th.—The tumour is becoming larger every day, and presents an irregular surface raised above the level of the abdomen; epigastric throbbing more distinct; a full single sound, without bruit, is audible on placing the stethoscope over the tumour; pulse 84; bowels free daily; motions solid, but soft—drab-coloured and very fetid; œdema of the under surface of the thighs and calves, but none of feet; abdomen flat; vomiting and hiccough; exhaustion intense; flatulence distressing.

November 30th.—He continued to sink gradually, and died during the night.

The nescroscopic examination was made, in my presence, by Dr. O'Sullivan, house surgeon to the hospital; the abdomen only could be examined. The following are his notes of the appearances, which correspond with my own:—

“Upon opening the abdominal cavity the lower edge of the liver is observed to extend about three inches below the lower border of the last rib. The stomach is pushed over to the left side.

“The liver is enlarged, myristicated over its surface, and embedded in

it are found several round bodies, of a greyish yellow colour, having the consistence of soft wax, and varying from the size of a pea to that of a plum. Towards the extremity of the left lobe one of these cancerous-looking masses is found in a softened, broken down condition, as if supuration had taken place; and some of the larger ones appear to be in the incipient stage of softening; near the edge lymph appears deposited in two or three places.

"The gall-bladder is found distended with greenish bile, and projects to a considerable extent beyond the free edge of the liver. The hepatic duct, the cystic, and the ductus communis are all found filled with bile.

"Upon introducing a probe into the ductus communis choledochus it is found completely obstructed, and does not pass beyond the head of the pancreas, where it is obliterated. The opening common to the pancreatic and ductus communis cannot be found in the duodenum after the most careful search.

"The stomach contains much grumous fluid, very dark; the mucous membrane is very much congested and inflamed; there may be observed two or three black patches of ecchymosis, slightly elevated. The coats of the stomach are tinged of a yellow colour, as are the neighbouring organs.

"The duodenum is found inflamed, and pressed upon by the pancreas, to which it is morbidly adherent—pressed upon to such an extent as apparently to prevent the passage of the food.

"The pancreas, particularly the head, appears a mass of cancer, soft and somewhat of the appearance of the deposit in the liver.

"The aorta and inferior cava, in this situation, with their branches, are surrounded by a large cancerous mass, engaging the mesentery and mesenteric glands.

"The kidneys are nodulated on their surface, and when cut into present the appearance of fatty degeneration.

"The spleen is of natural size, but friable."

To the preceding succinct description by Dr. O'Sullivan I would merely add that there was an absence of ascites, and that the disseminated masses occupied chiefly the convex surface of the right lobe of the liver; also, that diseased lymphatic glands formed the chief bulk of the tumour which had been felt during life; the head of the pancreas being impacted in a cancerous mass nearly equal in bulk to the head of a fetus.

Remarks.—At an early period of the case its malignant character was suspected, and was rendered too certain by the failure of the remedies ordinarily successful in cases of chronic hepatitis. Assuming the case to be one of organic lesion, and supposing, from the constant flow of watery fluid, that the pancreas was involved, we looked for the appearance of fat in the fecal discharges; which Bright has given as a chief sign of pancreatic cancer, but we could not detect any. It is a matter of speculation

to inquire what was the *point de départ* of the disease. We find in the abdominal cavity three extensive carcinomatous complications, viz.: the pancreas, the liver, and the mesenteric glands; the nodulated appearance of the kidney made it probable that this viscus participated in the cancerous cachexia. Now, which of the above organs is to be regarded as the originative source of the disease? If we accept the testimony of Rokitsansky, carcinoma of the pancreas is rarely primary, and the seat of its cancerous degeneration is mostly confined to its duodenal end, and found connected with like disorganization of the neighbouring viscera—such as scirrhus of the pylorus or of the lymphatic glands. On the other hand, both the liver and the lymphatic glands can *initiate* cancer as well as receive it consecutively. The history of the above case seems to me to favour the opinion that the cancer of the liver was subsequent in point of time; the sharp darting pains, central in position, having preceded the appearance of jaundice, which the autopsy showed was due to the pressure of the cancerous mass upon the bile duct. On this supposition the order would be—first, the glands, then the pancreas, and lastly, the liver. Professor Bennett, however, considers that in such cases the liver is the primary organ, and the lymphatic glands are only affected secondarily.

Another point of interest is *the rapidity of growth* in the tumour. It was not detected, though sought for, till about eleven days before death, in consequence of the tension of the abdominal muscles; but its growth from that time was very rapid; and the muscles, towards the close, ceased to offer resistance. Cancer, in some constitutions, seems to partake of the remarkable vegetative power of cryptogamous plants. In such extensive examples of the disease as the above the whole mass of the blood is tainted, and the cancerous matter is, most probably, deposited from the blood in the organs according to their affinity for it, and not, as Andral supposes, a transformation of tissue.

On the Use of Arsenic. By the President, DR. CUMMINS.

There are few medicines the strikingly beneficial effects of which are more obvious than arsenic.

An inveterate skin disease, which had, perhaps, for years tormented its victim, placing him almost as far beyond the pale of society as did the leprosy of old, fades away imperceptibly under its use, and enables the quondam sufferer to pay grateful homage to the healing art; or the worn-out subject of neuralgia, habituated to sleepless nights, and tortured restlessness, casts off the chain that had bound him to suffering, and thankfully acknowledges that to arsenic he is indebted for repose and comfort. Or some intractable intermittent, which quinine had failed to remove, is speedily banished from the system by the same means; or the spasmodic contortions, which render the victim of chorea a caricature of

humanity, acknowledge the power of this remarkable therapeutic agent, which restores the free and voluntary play of nerve and muscle. Nay more—in these, and many other diseases, not only is the local malady removed, but the tonic power of the medicine is sensibly felt in every part of the system. Would that we could say—all these triumphs of our art are achieved without danger!

Arsenic, as a medicine, is generally used in small and frequently repeated doses, continued often for a very considerable period. We are told by some authorities that it is not cumulative; and as this opinion was gravely maintained by a practitioner of considerable experience at a coroner's inquest, to which I shall presently allude, I think it well to occupy a little of the society's time with the discussion of a question of such *vital importance* to all who undertake to administer arsenic in disease.

Dr. MacSwiney stated, before the Surgical Society of Ireland, (see *Dublin Medical Press*, May 6th, 1863) that in a celebrated trial, which took place in France, there was a great discrepancy of opinion as to whether arsenic is cumulative or not—Danger, Flandin, Orfila, and other eminent toxicologists, maintaining that it is. But, instead of occupying your time with authorities on the subject, I shall discuss it on its own merits. And first—what do we mean by the cumulative action of medicines? Dr. Fleming, in the following passage (*Edinburgh Medical Journal*) states it to be “the gradual increase of physiological action from the successive exhibition of equal doses. When a second dose is given, before the effects of the first have passed away, we add to what remains of the action of the first the full operation of the second, and so on with the third and subsequent doses, until finally the sum of effects exceeds the limits of medicinal, and passes into those of poisonous action.” Now I believe all authorities admit that when arsenic is continued in small doses for a time, it may be weeks or months, certain physiological effects are produced; and, according to Dr. Fleming's definition of cumulative action, this admitted fact ought sufficiently to establish its cumulative power; for if the first dose does not produce the specific effects, and subsequent ones do, it follows that one dose must overtake the other within the system; and further, if physiological effects can be thus produced, it is only a question of time as to whether toxic effects may not follow.

However freely a medicine is eliminated from the system, a certain time is necessary for its elimination; and if, previous to that given time, a second dose is exhibited, there must be cumulation. Well-known facts also prove that free elimination does not prevent cumulation. For instance, few medicines run off more freely by skin, stomach, and bowels than tartar emetic, and yet the system learns soon to tolerate its presence, and allow large quantities to remain within it—witness the late cases of criminal poisoning with that substance—so we may, I think, admit that

the freedom with which arsenic is eliminated is no proof that it cannot accumulate.

The fact which stands out most prominently in opposition to the hypothesis that arsenic is cumulative is the alleged habitual indulgence in its use, even in daily quantities of from two to four grains, by the natives of Bohemia, Silesia, and some parts of the Austrian Empire, who, it is said, take it to invigorate the system, to improve the power of the respiratory organs, and to increase their powers of endurance (see *Dublin Medical Press—ante cit.*); but while we admit that these effects may be produced by it, and may be sufficiently appreciable to induce the ignorant to continue its use, just as the stimulating effects of alcohol lure on many a victim to destruction; yet, in the absence of the fullest information, this cannot be used as an argument against what reasoning would lead us to expect, and what well ascertained and well authenticated facts establish.

The facts I have yet to mention, are some of them quoted from various sources, some are my own. They demonstrate two things—1st, that arsenic is a slow poison; and 2nd, that it is a cumulative one; the difference between a slow and a cumulative poison being, that one, when given in continued small doses, produces effects different from the ordinary poisonous action of the agent; while the other, when similarly administered, suddenly causes the symptoms of a full dose at some uncertain interval of time.

In the *Dublin Medical Press* (May 6th, 1863) we find a most interesting case, recorded by Dr. John Barry, among the *Surgical Society's Transactions*, of a lady who, during a course of arsenic, under the observation of a London practitioner of great experience in the use of this medicine, was suddenly attacked with paralysis of both hands and feet. Ten years of protracted suffering and broken health followed, and then small black masses appeared imbedded in the skin, around an ulcer on the leg; these, on being analyzed, were found to consist of arsenic, and the hitherto ineffectual struggle of her constitution with the poison thus ended in the triumph of the former.

Several gentlemen took part in the discussion which followed the reading of this case; and Dr. Macnamara related a case in which arsenic, having hardly affected the eyelids or fauces, produced such intense diarrhea that death was only warded off by powerful stimulants. Dr. H. Kennedy also related a case where a single application of arsenic produced a very severe form of paralysis of both hands and feet.

Dr. Hastings, of Worcester (*Provincial Medical Journal*, August, 1848), relates the history of a patient who, after taking from three to five drops of Fowler's solution, thrice a-day for some weeks, suffered from great weakness, and partial paralysis of both upper and lower extremities, with burning pains in feet, &c. Dr. Turnstile, of Bath, followed it up by the case of a young woman who took three minims of liquor arsenicalis for

seven days, and became thoroughly prostrate, with peculiar glassiness of the conjunctiva; and another where the same medicine, taken by a young man, produced lassitude and incapacity for active exertion, reproduced by any slight cold. Dr. Erichsen (*Medical Gazette*, May, 1843) mentions the case of a young lady, of highly nervous temperament, but otherwise perfectly healthy, and without hereditary predisposition, who took Fowler's solution, and, as a consequence, suffered from extensive derangement of stomach, followed by a violent neuralgic attack, and, at a subsequent period, a distressing train of hysterical symptoms, which terminated in a state of what might be considered hopeless dementia.

Dr. Burne has reported the case of a young lady who took, in divided doses, in three days, one fifth of a grain of arsenic; symptoms of inflammation of the stomach, and alarming symptoms of a nervous character appeared (*Taylor's Medical Jurisprudence*).

Last Spring I was, myself, consulted by a gentleman who gave the following history of his case:—He had suffered for a long time from a scaly eruption of his ear, and had in vain used various applications, and taken much medicine—when a book, written by a London surgeon, strongly recommending the use of arsenic in skin disease, fell in his way. Its perusal so interested him that he corresponded with the author, and was ordered arsenic. This he continued, in doses of from three to six drops of Fowler's solution, three times a-day for two months, when the disease rapidly yielded to the treatment; and as there was tingling itching, and partial desquamation of the hands and feet, the dose was reduced, and continued thus for another month, when I was sent for in consequence of great irritation of the lower extremities, and symptoms of inflammation of the stomach having set in; and it was only by great care and active treatment that he was restored to comparative health. I met him this day (April 13th) and he mentioned that he has never since felt as well, or as equal to active exertion as before. These, and other cases that might be brought forward, prove that arsenic is a slow poison; that, like lead, mercury, silver, alcohol, &c., it remains long in the system, differing altogether from such poisons as tobacco and opium, which, when continued for a long time, produce injurious effects, due rather to a chronic influence upon the nutrition of the body, than to gradual accumulation within it. The following case is somewhat different from those I have related, as, instead of producing a slow poisoning, arsenic, in divided doses, continued for months, without, as far as we are aware, any but beneficial effects, suddenly, and without any known cause, exhibited the appalling train of symptoms which characterize the full toxic effects of the mineral; it is a case paralleled only by the action of strychnia, digitaline, and such deadly alkaloids, which, whether from insolubility, impaired digestion, or through accumulation, after being taken for some time with impunity, occasionally terminate life in a few hours.

At 4, a.m., on the morning of the first of April, I was called to see a man, aged forty, suffering from vomiting and diarrhea. His friends informed me that he had been in good health the previous day, had taken nothing to disagree with him, and had returned home at the usual hour to supper, but felt disinclined to partake of it. At 7, p.m., vomiting commenced, and shortly after diarrhea, both continuing up to the time of my visit. He was then lying on his back, extremely prostrate, cold, pulseless, and thirsty; he had taken punch and brandy, which had failed to stimulate him; he was perfectly conscious, and answered my questions in a distinct and natural voice; the pupils were dilated; the surface of body was cold and dark coloured; hands blue and corrugated; countenance pinched and anxious; there was great tenderness of epigastrium and abdomen generally; tongue was white; the breath was not cold, and there were no cramps. Vomiting and diarrhea did not recur during my visit, and all the discharges had been thrown out.

I prescribed medicinal and alcoholic stimulants freely, and opium cautiously. External warmth was applied, and such other ordinary treatment as seemed indicated. I saw him again at 10, a.m. He was then in much the same state as before, except that the body and extremities had regained their warmth, and that the respiration was short and hurried.

Diarrhea and vomiting had returned during my absence, and the discharges had been kept for me; those from the stomach were of a reddish brown, and the stools consisted of a reddish serum. He died shortly after.

I was not aware that this poor man had been taking medicine of any kind, as it had not been mentioned to me. However I thought the case suspicious, as although death might have been caused by perforation of some internal viscus, or by cholera, there was a sufficient amount of dissimilarity from the symptoms and course of such affections, as well as so close a resemblance to those of irritant poisoning, to make an inquest necessary. It was not until afterwards that I ascertained the true history of the case, which is as follows:—The patient had long suffered from an intractable skin disease, affecting one of his legs; and his master, a non-practising physician, who had read Mr. Hunt's book, and became deeply imbued with his views as to the value of arsenic, had, with the concurrence of another medical gentleman, ordered him about three minims of Fowler's solution, three times a-day, after meals, cautioning him immediately to report any affection of the conjunctiva, or other physiological effect of arsenic.

The poor man derived such benefit locally and generally from the medicine that he became deeply enamoured of it, continuing to take it steadily for about ten or twelve months. We all know the recklessness and hardihood of the Irish character, and can easily believe that slight discom-

fort about the eye, throat, and face, such as arsenic produces, might have easily existed unnoticed, or uncomplained of, and thus the medicine been permitted to accumulate until the symptoms of poisoning, by a large dose, were suddenly manifested.^a I have no doubt whatever that the patient was thus poisoned; and I gave evidence to that effect at the inquest. Unfortunately, however, there was no *post mortem* examination of the body to bear me out; as the jurors, who were principally uneducated labouring men, stood in awe of ordering their friend "to be cut up in pieces like a felon, and sent to a chemist to be analyzed," as a medical gentleman, who was present, told them would have to be done if there was an examination. I was the only material witness; and I testified as above, that, in my opinion, deceased died from arsenical poisoning. Nevertheless seven of the jurors gave a verdict in direct opposition to the evidence. So much for inquests! The verdict, however, would probably have been different had the case been a criminal one; but under the circumstances there was no great need for close investigation. The lesson it teaches, however, is too valuable to be thrown away.

I have read Mr. Hunt's book, as well as several of his papers which, from time to time, have appeared in the medical journals, and I think his mode of exhibiting arsenic most judicious, and far less dangerous than the old method of prescribing gradually increasing doses. It is the one I always adopt myself, and I have never seen disagreeable effects follow. During a course of arsenic the patient should be frequently seen, and closely examined. The peculiar silvery whiteness of the tongue, described by Dr. Begbie (*Ed. Medical Journal*), is exceedingly characteristic of the first constitutional influence of the medicine, and is seldom absent; it is soon followed by swelling of the face, redness and itching of the conjunctiva and eyelids, dryness of the fauces, and, occasionally, by the horizontal red line within the lower lid, described by Mr. Hunt. The moment any one of these symptoms is recognized the dose of arsenic must be reduced, and *under no circumstances* should it be continued for many consecutive months, as it would seem from the cases I have mentioned, and others, that after a time the excretory organs become habituated to its presence, and are insusceptible of the amount of irritation which the constant excretion of an abnormal product demands. In this particular arsenic seems allied, in its physiological action, to nitrate of silver, which, we know, will never accumulate under the skin in quantity sufficient to discolour it, if its administration is suspended from time to time.

With all the precautions I have mentioned, however, the use of arsenic is occasionally attended with some risk, for not only is it, at times, liable

^a Since the above was written I have heard from the man's master that none of the physiological effects of arsenic could have occurred, as he examined him constantly.

to exacerbations, remissions, and intermissions in its action (Dr. A. Thompson), but certain constitutions will not tolerate the smallest dose with impunity. Such idiosyncracies, of course, are *very exceptional*, and might be urged with equal justice against mercury, which, in almost infinitesimal quantity, sometimes salivates a patient; it is well, however, to bear them in mind, and increase the caution which it behoves us to exercise in all operations where human life is at stake.

Some Curious Facts Relative to the Preservation of Leeches. By JOHN WILLIAMS.

Although well aware how tenacious of life leeches are, still I was not prepared for the following fact regarding them. When we sailed from Australia, in the month of February, 1862, in the "Great Britain" steamship, about three dozen Australian leeches were put into a wide-mouthed green glass bottle, and hung in the surgery of that ship. The water supplied to them was formed of the *condensed steam* from the boilers. Sea water, as every one must know, is pumped from the sea into the boilers; and in the "Great Britain," I presume in other steam-ships also, a condensing apparatus condenses the steam, which otherwise would escape, and converts it into fresh water, which is in general use on board. Although this water is not so delicious as "sparkling spring," still I drank freely of it, as I knew it was pretty pure. The leeches occasionally seemed uneasy, evidently from the lack of oxygen in the water, and "mounted aloft" above the surface of the water in the bottle, until, I should say, it had absorbed atmospheric air. The now proved universality of the germs of life fully accounted for the source of their nutriment in the *condensed steam* of sea water, else on what could they subsist? Notwithstanding the unfavourable circumstances, both as to water, great and sudden changes of climate, from the ice of Cape Horn to the heat of the Tropics, &c., which the leeches had to endure, still but *two* leeches died during the entire voyage from Australia to England.

The Australian leech, which abounds in almost every river and lagoon in that country, differs but little from that in ordinary use with us. The olive streaks of the former are of a much lighter shade. I do not remember to have seen any maculated. A medical gentleman from that country told me they are found most excellent for use. They are taken by throwing a fresh sheep skin into a lagoon, to which they closely stick until it is drawn out, when they are picked off.

Last year I kept leeches in common distilled water for a long time, and found they lived very well in it; I would, however, strongly recommend some sub-aquatic weed to be put into the water with leeches; as, in my experience, and of others who have tried it, it will be found to lessen the mortality extremely; while, in addition, it obviates the necessity

for changing the water so often. Dr. Normandy has conferred a great benefit on the marine service, by his discovery of a comparatively easy method of distilling fresh water from salt, and so charging it with oxygen as to make it excellent for use.

His apparatus for the distillation and creation of fresh water from the sea is very portable, not very expensive, and is now, I am glad to say, in very general use.

As we are on the subject of Australia, I may add that the oil of the Dugong whale is much esteemed there, and would come into extensive use, as a substitute for cod-liver oil, but for its high price; indeed many consider the former to be more valuable. The Dugong is found in almost every bay along the eastern coast of that country. The aborigines about Moreton Bay, in Queensland, eagerly pursue this fish. The oil is of a pale greenish colour, and not disagreeable to taste. The blacks express it for sale, and then roast the carcass and devour it. The heart of the Dugong is remarkable for being so deeply cleft from apex to base—like that of early fetal life—as to give the idea of two separate organs.

We brought home a few bottles of Dugong oil in 1862. Its price then was about thirty shillings the quart bottle.

Case of Diphtheria. By DR. LUTHER, Clashmore, Co. Waterford.

On the 17th of February I was called to see Peter Walsh, a labourer of intemperate habits, who had been suffering one day from what I fancied to be tonsillitis. Previous to the attack he had been sober for a fortnight, with the exception of one day, when he drank hard at a funeral. Finding him feverish, with coated tongue, &c., I prescribed an antimonial emetic immediately, a saline aperient to be taken in the morning, and a stimulating liniment externally. There was no improvement the following day; but, believing the case an ordinary inflammation that would result in abscess, I did not think it necessary to visit him until three days after, when I was shocked to find him almost pulseless, with purulent secretion flowing from the nostrils. I ascertained that he had had maniacal delirium, and that during the paroxysms he had been uncontrollable, and had wandered about the fields. He was now taciturn, and so feeble that I considered it necessary to administer stimulants freely.

My attention was now called to a sister of this man, a young married woman, who had been complaining of sore throat for the last three days. She was not feverish, but the tonsils and uvula were œdematous; and the pharynx and uvula were nearly covered with a greyish yellow membrane; tongue very foul. I at once saw that I had cases of diphtheria to deal with (the first I had seen in an adult), and that Walsh's was a very aggravated form of the disease. I directed the female patient to use a saturated tannic gargle, and to take stimulants frequently. I also

prescribed gr. viii. of calomel at bed time, followed by a seidlitz in the morning, and a draught containing m. xx. of tincture of the muriate of iron three times a-day.

Next day I found Walsh rather improved, although the attendants had been unable to induce him to take more than one glass of punch; he had slept some hours during the night, and had awoke rational; but soon after began to rave again, as if he had delirium tremens. I now prescribed sixty minims of laudanum, with egg flip and whiskey. After this he slept all night, and was quite rational, and appeared to be rallying rapidly when I visited him next day. I ordered him strong broth and muriated tincture of iron. Improvement progressed rapidly from this date; and in four or five days he was able to get up, although continuing very weak for some time. The sister only remained in bed for two days, as she had to nurse her brother and three children, all of whom took the disease. One of the latter was very ill and feverish for ten days; a tumour formed in the parotid space, but receded without suppurating. The other two were more slightly affected; but all three suffered subsequently from paraplegia. The two adults, also, had incomplete paralysis of the lower limbs. I should have mentioned that the false membrane remained on Mrs. Keeffe's throat for ten days, even after the sickness had passed away.

Last year I saw a case of diphtheria in a healthy child, five years old, followed by paralysis of both hands and feet; the former recovering, however, in a week, and the latter not for six weeks after convalescence from the original disease. She then got croup, and bore antimonial treatment for that affection, as well as for two or three relapses of it which occurred, very well. Many cases of diphtheritic croup also came under my observation, of an eminently contagious character, last year.

About a fortnight after I attended Walsh I saw an old woman of seventy, named Keefe, dying in the next house, of phlegmonoid erysipelas of the throat. She had been confined to bed for a fortnight, complaining of pain in the side; but it was only five days before I saw her dying that pain commenced in a loose tooth, followed by swelling, and an immense effusion of lymph into the submaxillary cellular tissue, causing a hard brawny tumour; her tongue was black, swollen, and protruding from the mouth, preventing any examination of the interior, and presenting a fearful spectacle. She had been raving, but was speechless when I saw her; and soon after she died suffocated. Though strictly a case of phlegmonoid erysipelas, her proximity to the house of Walsh made me consider it a variety of diphtheria.

Case of Catalepto-mania. By F. A. PURCELL, M.D.

Mary C., aged seventeen, of strumous constitution, has perfect ankylosis of the knee, the result of successful treatment for disease of that joint. She has been under my notice for about two years.

On Christmas eve last I was called to see her, which I did at six o'clock in the evening. She was then sitting at a table, with her head resting on a pillow; her head was hot, but no headache; tongue slightly furred; pulse quick. She has not had her menses for the last three periods; on last Saturday they came on profusely, and on Sunday morning suddenly stopped; bowels costive. She answers all my questions. I ordered her some aloes and assafetida pills.

At eleven o'clock that night I was told that she was dying. When I arrived I found her stretched at full length on the ground on her back, quite rigid; her eyes open, with a vacant stare. They told me that she had worked her arms and body as one in a fit; she was held down for fear she might injure herself; her pulse was strong and quick; pupils sensitive, more or less contracted. I applied smelling salts to her nostrils, which had no effect.

I had her undressed and put to bed; she made no resistance. I then filled her mouth with table salt; this, when it began to dissolve, dribbled out of the side of her mouth; her jaws she kept firmly clenched; she remained perfectly motionless; eyes fixed. I ordered a turpentine and assafetida enema, and cautioned her mother to watch her.

December 25th.—She lies this morning as I left her last night; pulse 142; eyes open and fixed; conjunctiva greatly suffused; she worked her arms and body several times during the night; has taken only a little tea for the past week; she appeared to notice no question made to her. I turned all her friends out of the room; I felt the abdomen, and began to speak to her, when she rolled away from me to the off side of the bed, and she said, "that God and the doctor alone knew what was the matter." I then asked her why she was pretending to be ill in this way, as she was making all uneasy and anxious about her. She answered, "that she wanted to be dead, and would be thrown out as such to-night; she did not want to live, she was ruined." She answered no further inquiries; and when I re-admitted her friends she returned to the same position as before. The priest saw her afterwards, but he could not get a word from her.

December 25th—evening.—She has remained in the same state since morning.

December 26th.—Limbs and body quite rigid; pulse quick; eyes have remained constantly open and fixed, greatly suffused; she does not move her lids; jaws tightly locked. I again turned all out of the room, and told her that it was wrong for her to go on in this way; she nodded her head, and the tears began to flow; the eyes and lids she does not move.

Thinking that change of place and people would revive her, I advised removal to the Mercy Hospital; having told her so, she only bobbed her head. Six strong women had to take her to hospital between them, as she made every opposition. On entering the hospital she said, "Oh

you have done it badly; you brought me to where I got it." When I saw her next in the hospital, some few hours after her admittance, she lay rigid on the bed; eyes fixed and suffused; pulse quick; jaws clenched. She would swallow nothing. I had three leeches applied to each temple.

Ordered twenty minims of laudanum every third hour.

December 27th.—She screamed loudly, and worked much several times during the night; pulse 140; muscles contracted, and she lies much as she was yesterday; can not get her to swallow anything; her jaws are locked. She has lost a tooth in the front of her mouth, through which space fluids and medicines are tried to be passed, but all flow out again—nothing seems to go back. Dr. O'Connor now saw her, and he states that he has in private a similar case. A blister to the pole, and sinapism to the feet.

To have a turpentine enema immediately, and to take an ounce of assafetida mixture every second hour.

December 27th, 5 o'clock, p.m.—Pulse quick and weak; seen by Drs. O'Connor and Townsend; to have two glasses of wine during the night, and beef-tea.

December 28th.—During the night-time she had four attacks of wild delirious screaming; she then drank some drinks; and about four o'clock in the morning she took the sitting posture, and keeps up a continual movement from side to side; she seems to recognize persons, but does not speak; fondles everything with her hands, and appears frightened; the tongue is protruding, the teeth firmly clenched on it, red, and congested; pulse weak; the blister rose well.

To have an enema immediately, containing a drachm of tincture of opium; beef-tea *ad libitum*.

December 29th.—Pulse somewhat stronger; jaws tightly closed; tongue protruding; vacant expression; constantly picking bed clothes.

Ordered tincture of opium, two scruples; tartar emetic, two grains to six ounces of water. A tablespoonful to be taken every fourth hour.

Evening, 8 o'clock.—Pulse improved; has spoken a little, and points to her throat as to where all her disease is concentrated; jaws still kept tight; she cannot swallow; she keeps throwing her arms about, and puts away my hand when laid on her; conjunctivæ not so suffused.

To have the jaws stuped with hot flannels.

December 30th.—Has been chattering during the night to the attendants, and took some tea and toast for breakfast; she still moves her hands about; and when asked to put out her tongue, states she cannot open her mouth. The muscles of her chest and arms have been all along rigid; but since she slept, a little of which she has had, the muscles relax; pulse quick, but stronger; she now gets out of bed to micturate.

Had her removed from the private ward to the general ward.

December 31st.—Pulse weak; recognizes every one about her, but chatters, and demands oranges in particular from every one who comes near her; will not put out her tongue, and swears that she is dead over 100 years; she spues saliva from the mouth both when asleep and awake; quite maniacal. From this date she got gradually better, and was dismissed, cured, from hospital January 17th, 1864. I have since seen her, and she is at work with a dressmaker, apparently in perfect use of her brains and fingers.

Primary Syphilis. By THOMAS BLATHERWICK, M.R.C.S.E., Staff Surgeon 20th Depôt Battalion.—In submitting to the Society some statistics connected with cases of primary syphilis which have occurred in the Hospital of the 20th Depôt Battalion during the past two years, I must premise that it is not done with an idea that either the limited field which is thus gleaned from, or the abilities of the observer, can of themselves throw much new light on a subject of so much general professional interest—but with the hope that the leading practical points in connexion with the origin, progress, and treatment of this formidable disease, on which such a diversity of opinion has, at times, prevailed in the profession, may this evening be brought under discussion to our mutual advantage. And when we consider syphilis, either in its pathological or social aspect, in its baneful influence on the constitution, in the remote agency of its terrible poison, destroying not only the health and happiness of its immediate victim, but even of those who are dear to him, and passing by inheritance to a succeeding generation, it must be conceded that any fresh efforts we can make in its study, either by clinical observation or practical discussion, are most worthy of our attention.

I find that there have been seventy-one cases of primary syphilis under care in the Depôt Battalion Hospital, arranged as follows.—(*Vide* table I).

Of a total of 119 cases taken promiscuously from the books, without reference to the nature of the chancre, I find the following results with reference to mercurial treatment and secondary disease.—(*Vide* table).

I submit the following comparative statistics with regard to non-mercurial treatment and secondary disease.—(*Vide* table).

There is perhaps no disease around which there has been cast a greater shade of uncertainty as to its source and origin, or a greater variety of opinion entertained as to its progress and treatment, than syphilis. What a perplexity of antagonistic authorities meet the student of this disease; and where may the theorist take his stand and not find himself supported by the recorded opinions of the eminent of our profession? But, as the practice of individuals must be regulated by definite views, derived in part from the experience of their predecessors, and in part from their own observations, I would say that mine have led me to

believe that there are two specific forms of primary chancre—the indurated or Hunterian, and the soft or superficial, each capable of, and having a tendency to, reproduce a chancre of like nature; and I lean to this view because I have found that soldiers consorting with the same female, at or about the same time, have presented the same form of chancre, though they differed in temperament, habit, and other constitutional points.

I look on the Hunterian chancre as an intensified form of the disease, which may be produced by excessive and promiscuous intercourse, aggravated by dirt and debauchery; and when once existing it is reproduced by contact. In the army we generally meet it in large towns and garrison sea-ports, where the above conditions generally exist. As a rule, it is likely to syphilise the system, evidenced by the spontaneous induration of the chancre, and general inguinal enlargement, the glands of the groin being separately indurated, and not passing on to suppuration. Soft or superficial chancre, produced under less unfavourable circumstances than the Hunterian, is also reproduced by contact, and is exceedingly variable in its nature, under influences of an incidental or constitutional character, assuming every form from a simple abrasion of the mucous membrane to a formidable phagedenic sore; as a rule, not producing syphilisation of the system, and not extending beyond the neighbouring lymphatic gland which ordinarily softens down and suppurates. It may, therefore, be regarded as a local disease.

Neither Hunterian nor superficial chancre must necessarily produce constitutional syphilis if destroyed in a given time, or before the specific character of the disease is developed. The diagnosis of these two forms of disease is by no means as easy as would be at first imagined, as the superficial sore soon assumes a certain amount of thickening and induration under local irritation from dirt and neglect, or perhaps an attempt at treatment on the part of the patient.

It is true that certain leading characteristics of the Hunterian chancre are laid down by authors. The cup-like excavation, the indurated periphery and base not mingling with surrounding tissues, but imparting a sensation to the touch as of a piece of loose cartilage under the skin. I have very seldom found these genuine characteristics fully and completely developed. Questions of great practical importance are involved in this issue as to the treatment to be adopted, whether the disease is to be regarded as local or constitutional, and treated with or without mercury.

I know of no other reference, under these circumstances, than to the groin, where we may hope to find the bubo characteristic either of local or constitutional disease.

Phagedenic chancre appears to be allied to the superficial form, and its gradations in intensity from an ordinary spreading ulcer to a deep

destruction of parts are almost insensible. Constitutional causes appear to favour its development, and, *a priori*, it may be expected to have a tendency to reproduction. The period of development of the primary sore depends upon such incidental circumstances as the abrasion of the mucous membrane, or conversely on that membrane being thick, hard, and unsusceptible; from which cause the virus may for some time be in contact with it before the ulceration is completed. On the question of the period at which the syphilitic ulcer is developed after contagion, I am sorry that I cannot throw much light; the habits of soldiers have not enabled them to give many satisfactory answers to my questions on this point.

The treatment of primary sores usually adopted has been, first to clear out the bowels by saline purgatives; to reduce local inflammation by poultices, fomentations, rest, and low diet; and to endeavour to convert the specific into a simple ulcer by the application of nitrate of silver or nitric acid. There are other remedies adapted to this purpose, such as the acid nitrates of silver and mercury, the potassa cæcæ, &c.; of which I have had no experience. I believe that nitric acid is a most effectual agent, but I am not inclined to admit that the solid nitrate of silver, when early and thoroughly applied, is much inferior to it in its efficiency. An important question is the period to which the success of this abortive treatment of syphilis is in all probability limited. Ricord, in the case of the Hunterian chancre, places it at the first five days after exposure to contagion, basing his argument on the fact that the third day is the usual period at which that chancre assumes its peculiar indurated character, and evidences the initiation of the first stage of constitutional syphilis. The cases which have presented themselves for treatment in my hospital have, on the average, arrived at the third day of the existence of the chancre, and have thus been probably within the required period. The punishment which awaits a soldier for concealing his disease acts most favourably in affording opportunities for a radical cure. In cases of the ordinary superficial chancre the treatment by caustic may be adopted with expectation of success at a much later period than in those of the indurated chancre. I have thus treated, with success, eleven cases, from the fifth to the tenth day. After the successful application of caustic has converted the chancre into a simple ulcer but little local application has been used, beyond water dressing or weak astringent lotions; but in cases where the sore manifests no disposition to heal, its surface being smooth, with a brown parchment-like slough, and its edges hard and elevated, the patient has been brought under the influence of mercury, with good results. In those cases where the sore has shown a tendency to extend itself by an irregular creeping ulceration, or even threatening to become phagedenic, I have found a strong solution of the sulphate of zinc (gr. xx. or xxx. to oz.) a most

useful application. In these cases I have noticed great swelling and distension of the penis, the mucous membrane of the glands and prepuce being intensely red and shiny. These patients have generally suffered from long confinement to hospital, or have been cachectic or strumous.

This, then, has been the primary indication in the treatment of ulcers supposed to be syphilitic, but before any specific character has been developed; then we may predicate that if no ulterior symptoms are manifested, the probabilities are against constitutional infection; but at the same time, we should not be justified in guaranteeing immunity from it; because we see cases in which the earliest and most thorough application of caustic has been followed by fully developed constitutional syphilis.

When the characteristic induration of Hunterian chancre has taken place I have given mercury (generally by inunction), and have kept the patient slightly under its influence until the chancre and its induration had disappeared.

The discipline of a military hospital confers great advantages on the surgeon in the treatment of primary syphilis; and if the returns of military practice in this point contrast favourably with those of general practice, it is, in my opinion, due firstly to the fact that we can exact the most rigid diet and rest, and have at our command the free and unrestricted use of local cleanliness and remedial agents; and secondly, that the soldier is by unavoidable discipline prevented from plunging into that protracted debauchery which civilians may incur without punishment. He is also, by his regular exercise and generally good sanitary condition, in a better state to repel the inroads of specific disease.

On the point of secondary disease my observations must be most limited. We see comparatively little of it.

When a soldier's constitution is manifestly under the permanent influence of constitutional syphilis he becomes ineffective and is invalided. The connexion, moreover, which may have existed between primary and secondary disease cannot be so correctly ascertained in a dépôt battalion as in a regiment, inasmuch as the young soldiers, of which the former is largely composed, are constantly passing by drafts to the service companies of their respective corps, and the old soldiers who may suffer from secondary disease, have probably contracted its primary form while serving with their regiments.

Out of twenty-six cases that I have had under care, three have shown tertiary symptoms in the tibiae or cranium, with cachexia; three have had lepra; and the rest have had mild papular eruption, pain, enlargement of cervical glands, or sore throat.

I submit for the opinion of the society that the character of the secondary disease depends on constitutional influence in the individual, and not on the nature of the infecting sore.

In conclusion, let me remark once more what varied indications in the theory and practice of the treatment of syphilis have successfully swept over the profession from the days of John Hunter and "Essential Mercury" to the non-mercurial views of some of later days. As extremes beget extremes, so it was but natural that the excess of the mercurial theory led to a reaction, which in military practice about 1818 had reached to such an extent that in 1,940 cases sixty-five only were treated with mercury; but I am of opinion that these views and this practice among the members of my department have undergone great modifications in later years; that military and general practice are more nearly allied than is generally supposed, and that it is only in the absence of certain leading constitutional indications that army surgeons venture to consider primary chancre a local disease, and to treat it exclusively as such.

I have now laid before the society my imperfect mite of a contribution to its papers, under the assurance that its subject would be interesting; and I wish that it could be some slight acknowledgment of the courtesy which the society has always extended to the medical officers of the garrison.

TABLE I.—(Averages). *Primary Syphilis in 20th Depot Battalion.*

Nature of Chancre	Nos. Treated	Days of Coming Under Cure	Days' Duration of Chancre	Days' Duration of Case	Bubo	Treated with Mercury	Secondaries	Cases of Secondaries after Mercury
Indurated, . .	14	3	22	34	—	10	4	1
Superficial, . .	47	3	25	35	16	9	6	1
Phagedenic, . .	10	—	43	57	1	2	3	1
Totals, . .	71	—	—	—	17	21	13	3

TABLE II.—*Secondary Syphilis in Relation to Mercurial Treatment.*

Total Primary Sores	Treatment	Nos.	Followed by Secondary	Per Centage
119	Mercurial,	31	12	40
	Simple,	88	14	16

TABLE III.

Comparative Table of Secondary Disease in Non-mercurial Treatment.

Authority	Nos. Treated	Followed by Secondaries	Per Centage
Hospital 20th Depôt Batt.,	88	14	16
Mr. Green,	100	9	9
Dr. Hennen,	105	11	10·50
Army Records, 1818, .	1,875	84	4·50

The Evil of Treating Secondary in place of Primary Disease, Illustrated by Cases of Albuminuria, Diabetes, and Scorbutus. By D. C. O'CONNOR, A.B., M.B., Professor, Queen's College, Cork.

There is no more common source of error in the investigation of disease than the liability of mistaking secondary for primary affections. This is the more likely to occur, because the symptoms of the former are more prominent, being, as it were, more on the surface than those of the parent disease, which accordingly do not arrest the attention of the patient, and may escape the notice of any but a vigilant physician. Before pathology was studied with such care as of late this error was most natural, and of frequent occurrence. The very nomenclature of disease in the older nosologies shows that the object of treatment was often the leading symptom rather than the disease which produced them. Dropsy was treated of as a separate disease, whereas we now know it is produced by disease of the heart, liver, various diseases of the kidneys, of the veins and lymphatics, and by diseased conditions of the blood. In like manner icterus was not treated as a symptom of disease of the liver and neighbouring organs, but as a disease *sui generis*. The same might be said of hemoptoe, hematemesis, and various forms of fever. The danger of falling into this error is not so great at the present day; but cases occur in which it requires the utmost vigilance to escape it. A few of these I will bring under the notice of the society, consisting of cases of albuminuria, diabetes, and scorbutus.

A patient was brought to the Mercy Hospital suffering from necrosis of the tibia. A few days after his admission he was attacked with stridulous breathing, a husky cough, and other symptoms of sub-acute laryngitis. I was consulted about the case by the attending surgeon; we thought it necessary to administer mercury, and also to use tartar emetic very freely. After the first day the symptoms became so severe as to endanger life from suffocation, but were gradually subdued by the

treatment adopted. When we thought all danger from this source at an end, and the surgical disease alone again engaged attention, I was struck, on passing the bed of the patient, by the peculiar character of the breathing, which was of the kind known as cerebral. He lay in a state of somnolency, but was easily roused when spoken to, and fell off to sleep immediately again. Seeing no other way of accounting for this symptom but uremic poisoning I ordered his urine to be examined at the first opportunity, and found that it was of low specific gravity, and loaded with albumen. Active measures were taken to relieve the condition of the brain, but to no avail. Respiration became slower and more feeble, till death ensued.

In this case I believe the attack of laryngitis was caused by the urea existing in the blood; but having none of the usual symptoms to call attention in that direction it escaped our notice. This and other cases have led me to conclude that in every case of chronic disease we should examine the condition of the urine. As an instance, a few days since, a patient called to my study complaining of loss of appetite and lassitude, which he attributed to the state of his liver, as he was at the same time slightly jaundiced. He had no symptom to lead one to suspect a disease of the kidney; till learning that he was more than usually drowsy at several times of the day, and his memory somewhat failing, I did not think the slight jaundice sufficient to cause such torpidity, and I requested a relative who accompanied him to bring me his urine for examination. He absolutely refused to permit this examination through a nervous feeling. A few days after I was called to see him at his own house, in a pseudo-apoplectic state, similar to that of the last case, which ended in death in about forty-eight hours from the commencement of the attack. In this case, like the last, the urine was found to be albuminous.

A gentleman under my care suffered from protracted bronchitis, of a peculiar character. It was never absent, Winter or Summer, and was attended with a copious heavy expectoration. The smaller bronchi were completely blocked up; but a loud mucous crepitus resembling gargouillement was heard all over the chest in the second division of the bronchi. I was attending for a considerable time before I suspected that there was some more permanent source of disease than inflammation of the bronchi, and ordered his urine to be examined—when I found it to be of very low specific gravity and full of albumen. In some time after the more characteristic symptoms revealed the true nature of the disease. He was attacked with general anasarca, and finally with effusion into the membranes of the brain, which terminated life.

There is at the present moment in the Mercy Hospital a patient who was admitted, labouring under extreme congestion of the left lung and chronic enlargement of the liver and spleen. When he was a few days

under treatment the left pleura became distended with serum, and for a short time a bruit was discoverable in the sounds of the heart. In this case also the urine was found to be of specific gravity 100·6, and loaded with albumen, and the probability is that the other affections are but consequences of the uremic poisoning.

Another patient, labouring under rheumatic gout, enlargement of the liver, with chronic diarrhea, is a marked case of albuminuria; but the urine being secreted abundantly, and the diarrhea preventing congestion of any organ, he does not suffer from any symptoms which would threaten danger to life.

Diabetes will also furnish some cases in which the primary disease is so obscured by secondary affections as to elude observation for some time. There is no disease more easily recognized than this when attention is called to its leading symptoms—the superabundant secretion of urine. But the patient of his own accord never adverts to this, believing, as all the world do, that an abundant flow of urine is useful. It is only when we have sought in every other disease an explanation of the debility and wasting of the patient that our inquiries are turned to this, and the patient is surprised that we look on that as disease which he considered a source of safety. If the disease has passed to an advanced stage without having been discovered it will be frequently masked by other disease which arise as a consequence. Some time since I was called to see a gentleman in the last stage of consumption. On examining his chest I found sufficient to account for all his symptoms. There were cavities in both lungs; and the night sweats having diminished the quantity of urine, I did not advert to that as a cause of disease. It was only in the course of conversation I learned from him that prior to any affection of his lungs he had an immense flow of urine, as he expressed it. On examination I found this a most marked case of diabetes, and am quite sure the rapid consumption only ensued as its consequence.

I was recently sent for to see a patient who was stated to be labouring under anasarca of the lower extremities. His only complaint to me was his inability to put on his shoes, and thought if this symptom were abated he would be quite well. It was only on testing his urine for albumen that I discovered the existence of sugar, and soon found that all the other symptoms corresponded with those of diabetes. Most of the cases of this disease, who live for a long time, have this symptom before death, owing to weakened circulation. In this case, though in respectable circumstances, neither he or his family suspected the secretion of urine to be a disease till I inquired into it.

The numerous diseases which follow on the changes which take place in the properties of the blood in scorbutus furnish instances of similar errors. A poor woman was recommended to the Mercy Hospital by a

lady, who stated she was in extreme debility from rheumatism; and such it would appear to be on a cursory examination, for she was scarcely able to move any limb without great pain. However, the characteristic livid blotch observed near one ankle, and the livid swollen gams, gave a clue to the true character of the disease, and led to a speedy cure. I have seen cases of this disease in which the only apparent symptom was at one time homoptoe, at another hematemesis, in another chronic dysentery, and in a fourth congestion and solidification of the lung resembling the second stage of pneumonia. Unless the parent disease be discovered in all these cases the lowering treatment adopted would be more likely to aggravate than produce a cure.

On Progressive Motor Ataxy. By Dr. L. W. SALOMONSEN. Translated from the *Bibliothek for Læger* for January, 1863. By WILLIAM DANIEL MOORE, M.D., Dub., M.R.I.A.; Honorary Fellow of the Swedish Society of Physicians, of the Norwegian Medical Society, and of the Royal Medical Society of Copenhagen.

AMONG the many departments of pathology on which physiology has thrown an especial light, and in which many ingenious and varied experiments have only in modern times found their true solution, the diseases of the nervous system must, of course, occupy a prominent place. It is true we are still unacquainted with the nature and qualities of the proper nervous agent, and we have nothing to substitute for the "esprits animaux" of the older writers, such as Willis, or for the assumption by more recent authors, as Wilson Phillips, Krimer, Weinhold, and Hastings, of electricity as the active principle; but with every year we learn more of the various properties of the nerves themselves, and we get a better insight into the different functions of the several parts of the nervous system. We need not go back to Bell's or Magendie's discoveries to justify this assertion; nor need we call to mind the experiments of Flourens, Bouillaud, van Deen, Stilling, Longet, and many others; I shall point only to some of the most important discoveries of recent times; for example, to the establishment, especially through the experiments with Curare, of the separate existence of the excitability of the nerves and of the irritability of the muscles, to the discovery of the recurrent sensibility, and of the various electrical currents in the nervous tissue itself—to the demonstration of the different course of normal nutrition in the several nerves, and of the many species of degeneration connected therewith. At the same time, but partly independently thereof, the pathological conditions of the nervous system have constituted the subject of much more

accurate study than before; entirely new forms of disease have been discovered and systematically adopted; nosology has been enriched with such diseases as, for example, general paralysis, fatty atrophy, the nervous syphilitic affections, nervous intoxication, &c; and some of the ablest pathologists, for instance, Cruveilhier, Romberg, Bouchut, and Duchenne have directed their attention especially to this department. Pathological anatomy has, with the aid of her improved means of investigation, in many instances been able to demonstrate the material substratum of the derangements of function observed in the living body, and to refer each separate affection to the lesion of a particular nervous apparatus, or to a single but definite part of the nervous system; and a necessary result of this has, again, been that the pathological conditions have, on the one hand, served as a proof of the correctness of the corresponding physiological theories, and on the other have encouraged, nay, it might almost be said, have compelled observers to undertake further and more accurate physiological experiments, in order to obtain a fuller insight into the essential nature and foundation of the pathological process. One of the most interesting examples of the last mentioned relation is afforded by the disease named in the heading to this article, which I shall here consider somewhat more at length in its several bearings. With the exception of a condensed, but very clear, article in the *Ugeskrift for Læger* for the 30th of June, 1862, this disease has not, so far as I am aware, been treated of in Danish literature, and it will therefore be well, here, to consider a subject which abroad, especially in France, has, of late years, attracted the greatest attention. On particular points I shall be able to refer to the article in question, which I suppose is known to my readers; taken on the whole, however, this disease will be considered by me from quite different points of view.

Comprised under the denomination "Ataxy" this disease is certainly of very recent date; it was only in 1858 and 1859 that Duchenne^a described it under this name, as a peculiar new form of disease, hitherto indeed existing, but overlooked, which was previously mixed up with and referred to the more general forms of paraplegia, but which is distinguished from the latter by many characteristic marks, and ought, in all its relations, to be separated from the more general group. Without essential alterations, but increased by the experience of the intervening period, the same essay is to be found in his *Traité de l'électrisation localisée*, second edition, 1861; and on both occasions he has succeeded in giving such an aspect to the subject that many of his fellow countrymen, who, as is well known, do not in general trouble themselves much about foreign literature, have believed his discovery worthy of being ranked with Addison's bronze disease, Virchow's emboli, or Graves' cachexia.

^a Archives Générales de Médecine, December, 1858, *et seq.*

exophthalmica, and that, for example, Trousseau and Isnard prefer the term "maladie de Duchenne" to that of ataxy, in order to insure him his due share of merit. And yet Duchenne himself, much as he otherwise endeavours to put forward his own claims, even in his first article directed attention to the fact, that many earlier writers upon nervous diseases have reported cases which undoubtedly were examples of ataxy. Both Bouilland and Sandras have, he observes, histories of disease which, in many points, approach to those of ataxic patients; but it is especially in Romberg's writings that under the name of *tabes dorsalis* we find a disease described which, in many of its characters, completely resembles ataxy. In itself, says Duchenne,^a there is nothing wonderful in this; for the disease is frequent, and has, without any doubt, existed in all ages; but the observations communicated are either incomplete, or they resemble those of ataxy only in particular symptoms, or they are mixed up in one class with those of many other quite different diseases; and this more general assertion holds good in part, he says, also for Romberg's description. If, however, we examine for ourselves the grounds of this criticism, and peruse Romberg's descriptions of *tabes dorsalis*^b to the end, we find, as I shall show hereafter, descriptions not only of the most important features in the symptomatology and course of ataxy, but also much more correct indications of the anatomico-pathological foundation of the disease than those recognized by Duchenne in his first essay. It is true the description is neither so exhaustive nor so well arranged and striking as Duchenne's, nor is it illustrated by so many interesting and well reported cases, but the fundamental features are the same, and in many respects there is even complete identity, both writers laying stress upon the great importance of one and the same symptom, for example—of amaurosis, pains, want of equilibrium, especially in the dark, of the uncertainty of gait and of the upright position, while in the horizontal posture all movements are perfectly free and normal. The honour only of the description of some, certainly very important symptoms, and of the arrangement and description of the whole process, belong, in my opinion, to Duchenne, and this view is shared by many others. Thus Wunderlich says plainly,^c that the new disease described by Duchenne, ataxy, is in reality not new, but is only the form of disease known to everyone under the denomination of *tabes dorsalis*; and that in fact, besides the careful description of each symptom, there is only a single new point in Duchenne's work, namely, that he has been the first, decidedly, to insist on the fact, that the proper muscular power continues unimpaired to the end of the disease, and therefore at a time when any complicated movement is very difficult, if not perfectly impossible. And even, he adds, Duchenne is not the first who

^a l. c., 1859, T. i., p. 446.

^b Romberg: *Lehrbuch der Nervenkrankheiten des Menschen*, B. i., Abth. iii. Berlin, 1857. P. 905.

^c *Archiv der Heilkunde*, 1861, p. 199.

has described this symptom; thus, although it is not mentioned by most German writers, Wunderlich has, even in his pathology, published so early as 1853, pointed to it by showing that the movements, peculiarly uncertain as they are, have nevertheless not lost in proper power or strength, and that in a recumbent position they can all be performed with ease. Notwithstanding that since the publication of Duchenne's work he has not undertaken more recent investigations in this direction, he does not doubt that Romberg's opinion that the disease has its seat in the spinal cord is correct, in opposition to Duchenne's, which refers it to the cerebellum; and he therefore calls the disease, in contrast to the stationary spinal paralyses, the progressive spinal paralysis. Even among Duchenne's own countrymen there are some, and especially those who are best acquainted with foreign literature, who entertain and put forward the same opinion. Chareot and Vulpian, two junior professeurs agrégés, who are quite familiar with what is going on in other countries, in giving a condensed abstract of Romberg's essay, express themselves to the following effect: ^a—"It is therefore evident that tabes dorsalis corresponds in all essential points to ataxy, and that very little is wanting in Romberg's description to render it complete." Bourdon expresses himself to much the same purpose.^b

As, therefore, both Romberg's description and the article in the *Ugeskrift for Læger* are accessible to the Danish reader, I shall consider it unnecessary on the present occasion to give a detailed account of the symptomatology and course of the disease. I shall take leave only to sketch them very briefly, and to add some well-marked cases in illustration. In doing so I would remind the reader that the disease may, in general, be divided into three periods, namely:—1. The premonitory stage, characterized by paralysis of one or more of the motor nerves of the eye, the third or sixth cerebral pair, and consequent strabismus or ptosis of the upper eyelid; impaired vision; amblyopia, or complete amaurosis, depending on the lesion of the optic nerve; or diplopia, produced by the squinting—all existing either only in one, or, as Duchenne has three times observed, in both eyes; and, lastly, peculiar, piercing, fugitive, very violent pains, which come on with the rapidity of lightning or of electricity, and with intermissions of different duration, and which are usually increased by a slight, but are relieved by stronger, pressure. At the same time neuralgic affections of the genitals, incontinence of urine and feces, or difficulty, nay, impossibility, of spontaneous urination and defecation are often met with; spermatorrhea, diminished sexual desire, imperfect erection, or, on the other hand, as Trousseau especially has observed, very speedy emission, as occurs normally only in

^a Gazette hebdomadaire, 1862. No. 18, p. 282.

^b In Vol. xxxiv., p. 414, we have shown that our own countryman, Todd, was the first to describe this disease.—Ed.

many birds and mammalia, and a power of frequently repeating coitus within a short period. Such patients can sometimes repeat the act eight or ten times in the course of a night. At first view this might seem to be an augmented degree of virility, as in the normal state these sexual functions last a certain time, and cannot be repeated so often or in such rapid succession; but, in reality, it is a neurosis, and the proof thereof is, that in the same patient there has often existed incontinence of urine, and that, simultaneously therewith, involuntary daily or nightly seminal losses frequently occur. All these paralyzes and other nervous phenomena are often transient, disappearing with or without treatment; and, when the patient subsequently presents himself for advice in the second or third stage of the disease, he has frequently altogether forgotten them, and mentions them only when directly questioned on the subject. The same is true of other symptoms of rarer occurrence at this period; for example, hemiplegia, of which Trousseau has seen an example. The patient was suddenly attacked with it, without losing consciousness; and in the course of a week it was again completely removed. Shortly afterwards the same patient was twice attacked with paralysis of the tongue, but each time it lasted only a few seconds before he could again speak. Immediately after the last attack, however, the locomotor symptoms of the ataxy occurred, and the latter now rapidly progressed. Duchenne has twice seen paralysis of the fifth pair, once even double, complicating paralysis of the third pair; the soft palate and larynx may then, also, be paralysed. Once, finally, he has observed paralysis of the seventh pair, also as a complication, among the premonitory symptoms. With the exception of the sight, the other senses are, on the other hand, unimpaired; only one of Duchenne's patients had lost the hearing of one ear. Vertigo may occasionally be present, otherwise there is no cerebral symptom whatever. In many instances one or more of these symptoms, rarely all, may be completely absent, and the disease may, therefore, immediately present itself with the abnormalities generally characteristic of its second stage.

2. These form the principal marks of the disease—its pathognomonic characters—and they may briefly be stated as: progressive loss of the power of co-ordinating the various movements, and consequent apparent paralysis; which, however, contrasts strongly with the integrity of the muscular strength itself. With this is combined, in most cases, but not invariably, a greater or less degree of insensibility, sometimes merely cutaneous, sometimes also muscular. All this usually occurs first in the lower, and subsequently in the upper extremities, but in rare cases the opposite course may obtain. The patient finds a difficulty in standing or walking, is inclined to lose his equilibrium, or perceives a weakness in his lower limbs. He cannot stand quietly erect without reeling or leaning against something; if he walks, the different times in the movements of the legs, in his normal gait, are irregular and deranged; his limbs are

swung forwards or to the sides in all possible directions; the one leg either crosses the other or knocks against that of the person walking beside the patient; the foot is brought with such great violence with the heel to the ground as to shake the whole body; the steps are uncertain, making the patient afraid of falling, especially in walking quickly or in going down stairs. Some movements—for example, turning round or going to the side—are more or less impossible. Sometimes the patient feels as if driven forwards by an invisible but unconquerable power; and in one person the first symptom of the disease was, that one evening, when he attempted to go home, without wishing it, and without being able to stop, he was driven forward in a straight direction through the entire of a long street. The patient gradually comes to be unable to walk without support, and at last both walking and standing are quite impossible; after a few steps he feels excessively tired, is out of breath, bathed in perspiration, and is obliged to go back to his chair or bed. At first, and even when the disease is rather far advanced, he can, on the other hand, even if walking is at first uncertain, difficult, and slow, when the first steps are over, walk quickly and far, even several miles, upon level ground. Trousseau has, for example, seen a patient who had great difficulty in walking a few steps on the polished floor of the room, and who nevertheless had, the day before, perambulated Paris from one end to the other without fatigue. The ataxic gait, taken on the whole, resembles that of children when they attempt to walk upon a narrow bank or upon the edge of a railing, or that of an awkward rope-dancer. At a later period the movements of the limbs resemble those of puppets; in the imperfectly paraplegic, on the contrary, the feet drag along the ground, and are only slowly and with difficulty raised from it. Contemporaneously with the disturbance in the movements of the limbs there is usually more or less anesthesia of the parts; the patients feel the ground under them only indistinctly—have a sensation of walking on carpets or on elastic bodies, India rubber, round balls, &c.—do not know whether they have shoes on or not; or, when their eyes are closed, whether they are standing or sitting; nay, sometimes they feel as if they were floating on the air. In the upper extremities the abnormalities usually begin by the patient observing, first in one arm and then in the other, a feeling of thrilling, and formication in the fourth and fifth fingers. Only once has Duchenne seen these phenomena occur first in the three other fingers supplied by the median nerve; at the same time the movements of the fingers continue deranged, and the hand is very awkward with any object. Notwithstanding all this, however, the muscular strength itself is not weakened. In the horizontal position the patient can perform every movement with the ordinary power; and if an attempt be made to prevent one of his movements, by acting on the limb in the opposite direction, we shall easily satisfy ourselves that the strength of the muscles is as considerable

as usual. If, for example, in order to investigate the strength of the extensors, we make the patient extend the leg, and then, while an assistant holds the lower part of the thigh very firmly, endeavour, by grasping around the ankle, to bend it, we shall find a considerable resistance. As a further proof of this, measurement on a dynamometer is employed. Duchenne has, for the use of patients of this class, constructed a new one, made upon the principle of the lever. Lastly, all the symptoms described as belonging to the first stage, especially the pains, continue or increase; if some of them have disappeared for a time—as, for example, strabismus, diplopia, or ptosis of the upper eyelid—they usually occur again. 3. In the third period, finally, the symptoms become more and more general; they attack additional muscles, and at last do not spare one muscle of the extremities. The patient can then neither rise from his chair, stand, nor walk without the help of several other persons, and at every step he swings the legs about in the most extraordinary and most different directions. He cannot dress himself; cannot bring his food to his mouth; cannot hold an object; cannot even hold another person under the arm for any time. He is condemned to a constant sitting or lying position, and gangrenous sores on the os sacrum or trochanters are then not slow to be developed, and to terminate his fearful sufferings. Notwithstanding this considerable development of the disease, the proper muscular power continues all the time unweakened; the muscles are not atrophied, nor do they undergo any degeneration; and they are normally contracted by electricity, though they have long since lost all sensation of its action. The patient's condition, too, continues for a long time good; the vegetative functions all go on regularly; there is, even to the last, no trace of any intellectual disturbance, nor does any paralysis of the lips or tongue ever occur. Finally, the urine—unless there be catarrh of the bladder, in consequence of paralysis of that organ—presents nothing abnormal; according to Mialhe's investigations it, in particular, never contains a trace of albumen or of sugar. On the other hand, as Trousseau especially has seen exemplified, the anesthesia may extend from the skin to certain mucous membranes. He has had a patient who at last did not perceive the bodies his lips came into contact with, often let the food fall from them, did not know whether it was cold or warm, and could only very imperfectly judge of its taste; the teeth had also lost their peculiar sensibility, so that the patient did not know whether an article of food was easy or difficult to chew. Usually, however, the anesthesia spares these organs, while through the rest of the body it gradually spreads, increasing both in intensity and in extent; and it may from the limbs even invade the trunk. The sensibility—both the cutaneous, the muscular, and articular or osseous—may at last be altogether extinguished; the sole of the foot and palm of the hand are usually the parts whose sensibility is first and most completely attacked, and thence the affection extends,

evenly and steadily, upwards. It is at first, and often exclusively, that which concerns the skin, the proper anesthesia, the want of sensation on contact, which is present; later, and always in a less degree, analgesia may be developed; only very rarely, and always at a very late period, is the sensation of difference of temperature attacked. This may continue to exist, even if the anesthesia and analgesia are complete. Sometimes the anomaly of feeling exhibits itself, not as a want of, but as a slowness in, the capacity to receive impressions—that is, to conduct them from the periphery to the brain. Two or three, nay, even nine or ten seconds, may elapse between the moment when the physician punctures or electrifies the skin of the legs and that when the patient becomes conscious of the effect. In very rare cases, lastly, the sensation is not at all affected, and nothing abnormal is to be found in any direction in the patient's sensibility. Notwithstanding the rarity of these cases, they are, as we shall hereafter see, of special importance in studying the physiology and mechanism of this disease.

The report of some cases will, I hope, illustrate the sketch I have above drawn.

One of Duchenne's typical cases is as follows:—

The patient was a man aged forty-eight, who had for a long time occupied a damp house, but had never been guilty of excess, and had not had syphilis. In 1835 he one night felt violent pains in the legs, which disappeared when he got up and walked about; they did not return until several months later. The intervals gradually shortened, and in 1841, while dancing, he found a difficulty in turning round. His strength now diminished very gradually; but even in the close of 1842 his gait had become very much impaired, and very unsteady, particularly in the dark, so that it resembled that of a drunken man. He was now subjected to energetic treatment, directed against a supposed affection of the spinal cord, and was sent also to different baths; but the disease steadily advanced, and in 1856, when Duchenne first saw him, his state was as follows:—All his senses were more or less affected. Hearing was completely lost in the left ear, and weakened in the right. As to the sight, in the commencement of the malady there had been well-marked strabismus convergens, which had subsequently almost wholly disappeared, but vision, nevertheless, always remained weakened; the left eye was hypermetropic, the right was myopic. Smell and taste had not suffered. He had a feeling of thrilling in the left arm and hand, and their cutaneous sensation was impaired; in the right arm the latter was more normal, and the patient could still write with tolerable ease. The movements did not, however, obey the will, and the aid of sight was necessary to enable him to perform them correctly. If he closed his eyes his left hand could not find the tip of his nose; the right found it with somewhat greater ease. When lying in bed he did not know whether his hands touched the

mattress or his thigh. If another person touched his skin, he perceived the contact, but could not tell whether it was his right or his left thigh which was touched. In walking, he had to rest after having gone about fifty steps, and he was obliged to look constantly at his feet in order to be able to guide them, as he did not feel the ground under him. By leaning on something he could stand upright for five minutes, but the least push would be sufficient to throw him down.

His articulation was free; his mental faculties were unimpaired. His digestion was rather slow, but otherwise it was tolerably regular; only when he had diarrhea did the feces pass involuntarily. In the beginning of his illness there had also been incontinence of urine, but this had disappeared. His limbs were plump and well nourished; the hips alone were slightly emaciated.

Sleep, on the contrary, was bad, and was interrupted by violent pains. These occurred particularly upon any change of temperature, traversed as painful spasms with the rapidity of lightning the whole body, except the vertebral column and the back, and extended from the toes up to the ear and vertex, but usually occupied at once only a very small width. They came on in paroxysms of from twelve to seventy-two hours duration, and were during such spaces of time intermitting; but the remissions became steadily shorter and shorter. In the knee it was as if a needle was slowly pushed through it; in the foot, as if the part was crushed under a horse's hoof; in the legs and thighs as if they were wrenched off with an instrument; in the wrists, arms, and chest, as if they were squeezed in a vice. But they were worst of all in the head—at one time resembling blows of a hammer on the occiput; at another, such violent dragging in the neck, that the head vibrated like a bell in strong motion.

On interrogating the patient, Duchenne was able to arrange these phenomena in the following series:—1. The diplopia existed in the commencement of the illness, about the year 1835, as the sixth pair in the left eye was paralytic, and this eye was consequently turned inwards; but it lasted only a couple of months, though his hitherto excellent sight was, and continued, weakened. This, together with the violent pains, constituted the premonitory symptoms, and this first period lasted many years. 2. It was not until the close of 1841 that the lesion of mobility and sensation began to be manifested in the lower extremities. In certain movements—for example, in waltzing or turning round—the patient was liable to lose his balance; he had a feeling as if he was walking on carpets; later he felt as if he walked upon elastic cushions. Gradually he became so bad, in the course of 1843, that he could not stand upright without fatigue, and while walking he swung his legs about in the most irregular manner. 3. Some months after, in 1844, he had begun to feel a thrill, first in the left, and subsequently in the right, fourth and fifth fingers, and some difficulty in using them; and this rapidly increased, so that soon all the muscles of the upper extremities were affected. The aid of sight did not

avail to ensure greater regularity in the several movements. It was not until 1857 that paralysis of the sixth pair again occurred, the pains having during the whole time continued unchanged. From 1843 the patient had been impotent. In 1858 the muscular power was still normal; the nutrition of the muscles was unimpaired; their electrical contractility was completely preserved, their electrical sensibility, on the contrary, was much diminished.

The following is another of Duchenne's cases:—

X. Rentier, aged forty, has never had syphilis; had gonorrhœa only once; has never been given to Onanism; nor had spermatorrhea. In 1810, during convalescence from a slight gastric attack, he got paralysis of the third pair in the left eye, which was, however, removed after the lapse of three months. In 1815 and 1817 it returned, but was on each occasion removed in an equally short time; but the sight in this eye, which had hitherto been excellent, had from the first attack been perceptibly weaker. In 1847 the characteristic pains in the lower extremities set in. In 1848 there was a fresh relapse of the paralysis of the third pair in the left eye, and at the same time the patient suffered from some gastric affection, without fever, with obstinate constipation and nocturnal erections, but without seminal loss. Both the strabismus and the diplopia were now, however, again removed; only the weakness of vision, and this now in both eyes, and the pains continued. He thought himself better until 1852, when all his symptoms again returned, with the addition of vertigo and loss of the power of balancing himself in standing or walking; still he continued, on this occasion, to feel the ground distinctly under him, and was conscious, even without the aid of light, of the movements performed by his legs. Six months later he began to experience a sensation of formication in his fingers, and the movements of his hands became awkward. The pains extended. In 1854 he completely lost his sight, and from that time to 1856, when Duchenne saw him, his condition underwent no change. On examination, Duchenne found that there was complete amaurosis, partial paralysis of the third pair in the left, of the sixth pair in the right eye, considerable dilatation, and complete immobility of both pupils. The power of all simple movements was normal, but all the even only slightly complicated movements were performed in the most irregular and characteristic manner, and were very abrupt. There was complete anesthesia; the feeling of contact was very weak, and the electrical muscular sensibility was somewhat diminished; but the patient felt the passive movements which another caused the limbs to make; and if he was desired to move his legs inwards or outwards, to bend or extend them, he did it, and felt that he executed these movements, but he performed them without order and without control over them. Hence it will be seen that in this case the *first* period, characterized by pains, and by three attacks of amblyopic strabismus, had lasted twelve years

from 1840 to 1852; that the *second*, in which disturbance of the co-ordinating power of the lower extremities set in, lasted one year; and that, finally, the *third* period, in which the upper extremities also were attacked, commenced in 1853, and was still, in 1856, progressing.

Of the many cases of this affection reported during the last few years in the French journals, I shall here quote two in abstract.

The first observation is by Charcot and Vulpian :—^a

Mrs. P., aged forty-two, whose mother had been three times hemiplegic, and who had herself, in her twenty-second year, had chancre, followed by secondary symptoms, had in 1849, after having lived for six weeks in a very damp house, begun to feel violent pains in many parts of the body, but especially in the back and left breast, with weakness of vision. At the end of three months the latter had, however, quite disappeared. In 1851 she got an attack of pleurisy, and during it the weakness of sight again returned, first in the left, and afterwards also in the right eye; this gradually increased, and in 1852 the left, and in 1855 the right eye also, became completely amaurotic. During the subsequent years she was, with the exception of frequent attacks of intercostal pains, and of cardialgia, comparatively well until the commencement of 1860. She then began to feel cold and numbness in her feet and legs, and the latter appeared to her to be as light as those of a child. Soon after, walking became difficult, and indeed impossible, without support; she could not walk slowly, she was obliged to go quickly; her legs, particularly the left, were often swung involuntarily forward, inward, or outward, and she often came between the legs of the person she leaned upon. A few months later she got a short fever, and when it was over she was completely paralytic in the lower extremities; blisters, and cauterization along the spinal column, brought her, after some time, so far, that she could drag herself on for a few steps. In July, 1860, however, the paralysis again became complete, and both walking and standing were now wholly impossible. From this time until January, 1862, the state of the limbs remained about unaltered, but her constitution was broken down by the development of phthisis. On accurate examination it was now proved that she was completely and absolutely blind, and that strabismus divergens existed, particularly in the left eye. As to the limbs, complete paraplegia was so far present that the patient could not with the lower extremities perform any combined movement whatever—for example, change her position in bed; still, each limb separately, although emaciated, appeared to have preserved a great part of its muscular power. Thus the patient could flex the thigh or leg strongly, and another could not then, against her will, again extend it. If she were desired to extend the leg, to move it forward, to the right or to the left, &c., she performed these movements, and even strongly, but

^a Gazette hebdomadaire, 18th April, 1862.

by jerks, in several attempts, without order and precision. Her movements were, moreover, always in extremes; she exceeded the object she would attain, and soon felt excessively tired. She could, although with difficulty, sit in an arm-chair; but if she tried, even supported by two others, to stand upright, her legs would not bear her, but would hang helplessly down, and if she endeavoured to walk her movements were without co-ordination; one leg was bent, while the other was extended, one went forward, while the other went outward, &c. As to sensibility, the skin of the legs was so hyperæsthetic that a slight touch produced violent pain, and, for example, woollen stockings caused a very disagreeable pricking and tickling in them; but at the same time the feeling was so perverted, that while she could perceive every excitation or contact, she could not form an idea as to the object by which it was produced. Her legs, too, were constantly cold; she had a feeling of formication, or of more violent pains, accompanied by *subsultus tendinum*, or stronger convulsive contractions, in them; and she often felt as if they were very light. She knew very well what position they occupied at any moment; she referred every contact of them to the right place, and felt it uninterruptedly, and readily distinguished warm and cold objects from each other.

Her arms were not at all affected.

At the end of March she got a colliquative diarrhea which soon proved fatal. The result of the *post mortem* examination shall be given hereafter.

In this case we have an example where the disease—although its premonitory symptoms, the lesions of vision, began in 1849—did not enter upon its second stage until 1860; and even at the time of death, or thirteen years after its commencement, had not passed that stage. That the affection may probably, but, it is true, only probably, have been connected with the syphilis which preceded it, is a circumstance which it may be worth while provisionally to bear in mind.

For the second case we are indebted to Charles Isnard.^a

Madame X., aged seventy-five, has always suffered from headache, gastralgia, and retching. Her sister suffers from asthma; her son from gastralgia and from constantly-increasing deafness.

Three years ago the patient's attacks of headache ceased, and were followed by the precursors of ataxia. She began to see objects misty and double. It was a pure amblyopia, a weakness of the sense of sight itself, for there was neither strabismus nor ptosis of the upper eyelid. After the lapse of a couple of years these anomalies ceased, and were succeeded, in the commencement of 1861, by the proper ataxic symptoms.

The pains pass from the feet up along the whole legs to the loins, and finally, but very feebly, to the arms. They are situated in the substance

^a See *L'Union Médicale*, 1862, Nos. 131, *et seq.*

of the muscles; do not follow the course of the nerves; are at first instantaneous, like electrical shocks, but become steadily stronger and more lasting, and are always worst at night. At the same time, and in the same sequence, the skin becomes anæsthetic and analgesic; the patient does not feel the ground under her; does not know whether she has shoes on or not—for example, she goes to bed with them on; loses objects, such as her knife and fork, out of her hands; and does not perceive even deep prods of a pin. She has, moreover, an insupportable feeling that the skin upon her legs, and particularly upon her hands, is very rough and dry, although in reality it is of normal softness. The sense of difference of temperature continues unaffected.

A little later, in August, 1861, the want of co-ordination of movements begins to manifest itself, and both in the lower and upper extremities. In a state of rest the muscles act normally, and their strength is unimpaired—for example, her legs do not bend under the weight of her body, and she can, with ease, raise from the ground a large object, such as a chair—but the movements of the legs are irregular, and do not obey the will. Her gait is jerking, tottering, quick or slow; her body is thrown to the right or to the left; and, in order to avoid falling, she is obliged to support herself on something. The smaller an object is, the greater difficulty she has in holding it; she has, for example, great difficulty in tying her ribands or in fastening a button, and great uncertainty in bringing her food to her mouth. Her movements are, on the whole, less regular and equable than in senile palsy, and less awkward and fantastic than those in chorea. She cannot herself judge of the force of the contractions, nor estimate the weight or resistance of bodies, nor adapt power to obstruction. For example, she jumps violently out of bed, instead of rising quietly; squeezes another's hand with too great force, or brings her glass very suddenly up to her mouth; thus, from the want of the capacity to graduate the strength of her movements, she usually overreaches her object.

All other functions are regularly performed.

In March, 1862, she fell and injured the right trochanter major; immediately afterwards she became almost completely paraplegic in both legs, so that, although her movements were still tolerably strong, she could neither stand nor walk; the pains and the other anomalies of sensation increased in the same degree; bed-sores formed, and she died in April. No *post mortem* examination was permitted.

In contrast to the preceding case, we have here an example of a tolerably rapid development of the disease. The patient herself, as well as all her family, was predisposed to nervous diseases; she suffered, for many years, from one of the best marked and severest forms thereof, and when this ceased it was only to give place to one still more formidable. The premonitory symptoms of ataxia, in fact, set in immediately after;

and after the lapse of scarcely two years the second stage commenced. In the course of about a year the disease became general; and, although it was still far from having attained any great development, a comparatively slight cause sufficed to suddenly and greatly accelerate its course, and to bring on the final result—death.

(To be continued.)

CLINICAL RECORDS.

Hospital Notes from County Londonderry Infirmary. By THOMAS H. BABINGTON, M.D., T.C.D., Surgeon to the Infirmary.

Tetanus—Nicotine.—Three cases of tetanus—one traumatic, two idiopathic—were received into hospital in 1863. The first consequent on a compound fracture of left tibia, in a woman aged sixty-six years. Tetanic symptoms appeared on the morning of Thursday, the tenth day from the occurrence of the accident, and proved fatal on Saturday night, sixty-four hours from the first appearance of the symptoms. Notes of this case have been published in the *Dublin Medical Press*.

The idiopathic cases appeared to be occasioned by exposure to cold. One continued for four days. The second felt his first symptoms—stiffness of his neck and jaws—on Monday morning at breakfast, and he died on Tuesday evening at seven o'clock. In each of these cases *nicotine* was used, in one-third of a drop doses, every third hour; and although it failed to cure the disease and arrest its fatal progress, I have no doubt it effectually lessened the sufferings of the patients. In the third case there was a complete cessation of the spasms for several hours before death, which was occasioned by exhaustion.

Wound of Abdomen.—John Vancuelen, a Belgian sailor, admitted at 12 o'clock on the night of Tuesday, 13th January, having been stabbed a few minutes before in the left side, below the last rib over the spleen. A portion of omentum protruded through the wound. This was returned without much difficulty. There was great sinking, faintness, prostration, incessant vomiting, and coldness of surface—in fact intense depression of all the vital powers. These symptoms continued until 5 o'clock, a.m., on the 15th, when he died.

On *post mortem* examination, the abdominal cavity was full of blood. The dagger-knife with which the wound had been inflicted had passed through the spleen, dividing its blood-vessels, and penetrated the descending colon.

Fractures and Dislocations.—As usual, a considerable number of cases of fractures and dislocations came under treatment. One case of dislocation of the humerus into the axilla, of three weeks standing, was satisfactorily reduced.

A case of dislocation of the hip into the ischiatic notch, of two years standing, was admitted. The patient had a recent contusion on the formerly displaced joint, and by his want of candour and false statements led us very much astray in coming to a correct conclusion as to the real nature of his case. It was not until after he had been placed under chloroform, and the limb subjected to very considerable traction with pullies, and on failing to replace it in its normal position, that he informed us he had been lame for two years from the effects of an old injury occasioned by a fall from a horse.

The fractures of the thigh and leg, both simple and compound, were all treated in the straight and extended position, a practice which I have invariably adopted, and with the best results.

Poisoning by Oxalic Acid.—J. G., a shoemaker, aged thirty, in the horrors from excessive drinking, on 15th February swallowed a pennyworth (about 240 grains) of oxalic acid.^a About ten minutes after a mustard emetic was administered. He vomited, and was brought to hospital about 7 o'clock in the evening. I saw him immediately after his admission. He was in a state of complete prostration; pulse very small and weak, scarcely perceptible; surface of his body cold and pallid; spoke in a low whispering voice; intense thirst; burning pain in epigastric region; and immediate vomiting of the fluid which he incessantly called for and drank to allay his thirst. In fact, he seemed in a moribund condition. A sinapism was applied over the stomach and epigastrium—indeed a very large one. Heat applied to the extremities and every part of the body; milk and lime water given to drink; stimulating enemata administered every six hours, and a mixture of tinc. opii, magnesia, and water, given at intervals. The next morning there was some reaction, but the vomiting continued. He was ordered draughts with hydrocyanic acid; to continue the mixture, and to have a large blister applied to the epigastrium. Under this treatment the irritability of the stomach gradually subsided, and he was able to retain small quantities of cold chicken-broth and beef-tea. Along with the irritability of stomach there was a most obstinately constipated state of the bowels, which were with difficulty opened by enemata; and there was, for nine days from his admission, total suppression of urine. Under a continuance of the treatment he gradually recovered, and left the hospital on the 17th March in a state of convalescence.

^a Oxalic acid, being used by shoemakers and bonnet-cleaners, is sold in packages for one penny or two pence each, and hence is readily procured.

Nevus.—Two cases of nevus were under treatment—one a large one of the upper eyelid; the other above the right temple, about the size of a fourpenny piece—but were effectually treated by the frequent insertion of hot needles, as recommended by Mr. Wordsworth in the *British Medical Journal*, December 25, 1858, a practice which seems the best yet introduced for the removal of these very unsightly affections when of small size.

Polypus Uteri.—The patient was brought to hospital much exhausted from repeated hemorrhages, and stating that she had prolapsus uteri. On examination the existence of a large polypus protruding into the vagina was detected. A ligature was applied, with Gooch's canula. The polypus separated on the fourth day. The woman's health is perfectly re-established.

Hernia, in a woman aged sixty-five; had been strangulated four days. She sank, and died six hours after the operation. On a *post mortem* examination the intestine was found gangrenous, and open about three inches above the situation of the stricture.

Rheumatism.—An unusually large number of cases of acute rheumatism came under treatment. One of the patients stated hers was the ninth attack. Her heart was frightfully engaged, having been very much damaged by previous attacks. In all cases the alkaline treatment was adopted, and proved very satisfactory; and where the heart was engaged the application of a few leeches, and afterwards a small blister, afforded much relief. Under the alkaline treatment, when adopted early, I have observed that cardiac complications are much less frequent than I have found them when I have treated the disease with colchicum, or with calomel and opium. The mixture given was as follows:—Bicarbonate of soda, half an ounce; bicarbonate of potash, two drachms; nitrate of potash, one drachm; camphor mixture, ten ounces; an ounce was given every fourth hour. Covering the pained joints with cotton wool, and with Dr. Fuller's alkaline lotion, with tincture of opium, afforded very marked relief.

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1. Dictionnaire encyclopédique des sciences médicales. Publié sous la direction de MM. les Docteurs Raige-Delorme et A. Dechambre. Tome 1^{er}, partie 1^{re}. A-Acc. Paris: Asselin, 1864. 8vo, pp. 400.
2. Nouveau dictionnaire de médecine et de chirurgie pratiques; illustré de figures intercalées dans le texte. Directeur de la rédaction, le Docteur Jaccoud. Tome 1^{er}, parties 1^{re} et 2^{me}. A-Age. Paris: Baillière, 1864. 8vo, pp. 416 and 396.
3. Anilin und Anilinfarben in toxi-kologischer und medicinal polizeilicher Beziehung. Von Prof. Dr. Sonnenkalb. Leipzig: Wigand, 1864. 8vo, 61.
4. Pyrmont, its chalybeate and saline springs, and the complaints alleviated by their use. By Dr. Th. Valentiner. Leipzig: Brockhaus, 1864. 8vo, pp. 87.
5. Report of the Sligo and Leitrim Hospital for the Insane for 1863. 8vo, pp. 46.
6. The thirteenth report of the district, criminal, and private lunatic asylums in Ireland. Dublin: Thom, 1864. 8vo, pp. 140.
7. Lunacy and law, together with hints on the treatment of idiots. By T. E. D. Byrne, L.R.C.P., &c. London: Lewis, 1864. 8vo, pp. 41.
8. Treatment of consumption, with remarks upon the properties and uses of various remedial agents. By Matthew Corner, M.D. London: Hardwicke, 1864. 8vo, pp. 58.
9. Berliner Klinische Wochenschrift, Organ für practische Aerzte.
10. Gaol dietary, the operations of the recent committees. By Ed. Smith, M.D. Reprint from the Social Science Review, August, 1864. 8vo, pp. 36.
11. Papers. By Jas. Spence, F.R.C.S., &c. 1. Cases of tracheotomy in croup, with clinical remarks. pp. 9, 1860. 2. Case of amputation at the hip-joint. pp. 7, 1863. 3. Tracheotomy in diphtheritic croup. pp. 8, 1864. 4. Successful case of primary amputation at the hip-joint; and case of spontaneous gangrene of the lower extremity, accompanied by a rare form of arterial lesion. pp. 11, 1864. Edinburgh: Oliver and Boyd.
12. Forty-fourth annual report of the directors of the Dundee Royal Asylum for Lunatics, 1864. 8vo, pp. 42.
13. Lectures on the elements of comparative anatomy. By Thos. H. Huxley, F.R.S., &c. On the classification of animals, and on the vertebrate skull. London: Churchills, 1864. 8vo, pp. 303.
14. The Hopley divorce case—a cry to the leading nation of the world for justice, and for the souls of my wife and children. Dedicated to Lord Brougham. By Thos. Hopley. Hopley, 147, Fleet-street, London. 8vo, pp. 132.
15. Corpulency, i.e., fat or embonpoint, in excess. Letters to the Medical Times and Gazette, explaining briefly his newly discovered diet system to reduce the weight and benefit the health. By A. W. Moore, M.R.C.S., L.S.A. Fifth edition. London, 1862. Cr. 8vo, pp. 73.
16. Outlines of surgical diagnosis. By Geo. H. Macleod, M.D., F.R.C.S.E., &c. London: Churchill, 1864. 8vo, pp. 543.
17. On a form of bronchitis (simulating phthisis) which is peculiar to certain branches of the Potting trade. A graduation thesis, to which was awarded the gold medal of the University of Edinburgh, August 2, 1864. By Chas. Parsons, M.D., &c. Edinburgh: Maclachlan & Stewart, 1864. 8vo, pp. 35.
18. Neligan's Medicines, their uses and mode of administration. Edited by Rawdon Macnamara, M.R.I.A., Professor of Materia Medica, R.C.S.I., and Surgeon to the Meath Hospital, &c. Sixth edition. 8vo., pp. 780. Dublin: Fannin & Co.
19. Étude sur le trichina spiralis. Par H. Kestner. Paris: Baillière et Fils, 1864. 8vo, pp. 89.
20. The president's address at the thirty-second annual meeting of the British Medical Association, held in Cambridge August, 1864. By Geo. E. Paget, M.D., F.R.C.P., &c. London: Richards. Cr. 8vo, pp. 31.
21. Lectures on public health, delivered at the Royal College of Surgeons. By E. D. Mapother, M.D., Prof. of Hygiene, &c., &c. Illustrated by 20 woodcuts. Dublin: Fannin, 1864. Fcap 8vo, pp. 276.
22. Les stations médicales des Pyrénées et des Alpes comparées entre elles. Par le Docteur H. C. Lombard. Genève: Joël Cherbulez, 1864. Post 8vo, pp. 183.
23. On the Wolffian bodies of the fetus and their remains in the adult, including the development of the generative system. By Wm. M. Banks, M.D. Prize thesis. Edinburgh: Maclachlan & Stewart, 1864. 8vo, pp. 103.
24. An inquiry into the relative frequency, the duration, and cause of diseases of the skin. As deduced from the observation of one thousand consecutive cases. With remarks on the exanthematous epidemic of the spring of 1864. By

Erasmus Wilson, F.R.S. London: Churchills, 1864. 8vo, pp. 80.

25. On the saline treatment of cholera. By J. Kellie, M.R.C.S., Deputy Inspector General of Hospitals H.M. Indian Army. Bristol: Kerslake & Co., 1864. 8vo, pp. 31.

26. Practical anatomy: a manual of dissections. By C. Heath, F.R.C.S., &c. London: Churchills, 1864. Fcap. 8vo, pp. 539.

27. Principles of human physiology. By W. B. Carpenter, M.D., &c. Sixth edition. Edited by H. Power, M.B., &c. London: Churchills, 1864. 8vo, pp. 946.

28. Entozoa: an introduction to the study of helminthology, with reference more particularly to the internal parasites of man. By T. Spencer Cobbold, M.D., F.R.S., &c. London: Groombridge & Sons, 1864. Royal 8vo, pp. 480.

29. Address to the subsection of physiology at the opening of the thirty-fourth meeting of the British Association in Bath, Sept. 15, 1864. By Ed. Smith, M.D., &c. On the present state of the dietary question. 8vo, pp. 16.

30. A treatise on fever: being part of a course of lectures on the theory and practice of medicine. By Robt. D. Lyons, K.C.C., F. & C. K.Q.C.P.I., &c. Second edition. London: Longmans, 1864. 8vo, pp. 473.

31. A handbook of hospital practice, or an introduction to the study of medicine at the bed-side. By Robt. D. Lyons, K.C.C., M.B., F. & C. K.Q.C.P.I., &c. Second edition. London: Longmans, 1864. Post 8vo, pp. 137.

32. The journal of British ophthalmology, and quarterly report of ophthalmic medicine and surgery. Edited by Jabez Hogg. London: Churchill, No. 1. Oct., 1864. 8vo, pp. 112.

33. The ophthalmic review, a quarterly journal of ophthalmic surgery and science. Edited by J. Z. Lawrence and T. Wind-

sor. London: Hardwicke. No. 3. Oct., 1864. 8vo, pp. 100.

34. Practical observations on the hygiene of the army in India, including remarks on the ventilation and conservancy of Indian prisons; with a chapter on prison management. Illustrated with woodcuts. By Stewart Clark, M.R.C.S., Inspector General of Prisons. London: Smith, Elder, & Co., 1864. 8vo, pp. 162.

35. A manual of physiology, and of the principles of disease. By Ed. D. Mapother, M.D., &c. Second edition. 150 illustrations. Over one thousand questions by the author, and selected from those of the examining boards, and a glossary of medical terms. Dublin: Fannin & Co., 1864. Fcap. 8vo, pp. 569.

36. Elements of materia medica, containing the chemistry and natural history of drugs; their effects, doses, and adulterations; with observations on all the remedies recently introduced into practice; and on the preparations of the British pharmacopeia. By Dr. Wm. Frazer. Second edition. London: Churchill, 1864. 8vo, pp. 453.

37. Guy's Hospital reports. Edited by S. Wilkes, M.D. Third series. Vol. X. London: Churchill, 1864. 8vo, pp. 400.

38. A manual of practical hygiene, prepared especially for use in the medical service of the army. By E. A. Parkes, M.D., F.R.S., &c. London: Churchill, 1864. 8vo, pp. 612.

39. 1. Notes on spectrum analysis. 2. On albumen and certain of its metallic combinations. By Emerson J. Reynolds, Lecturer on Practical Chemistry, Ledwich School of Medicine. 8vo, pp. 16.

40. Skin diseases: their description, pathology, diagnosis, and treatment, with a copious formulary. By Tilbury Fox, M.D., &c. London: Hardwick, 1864. 8vo, pp. 315.

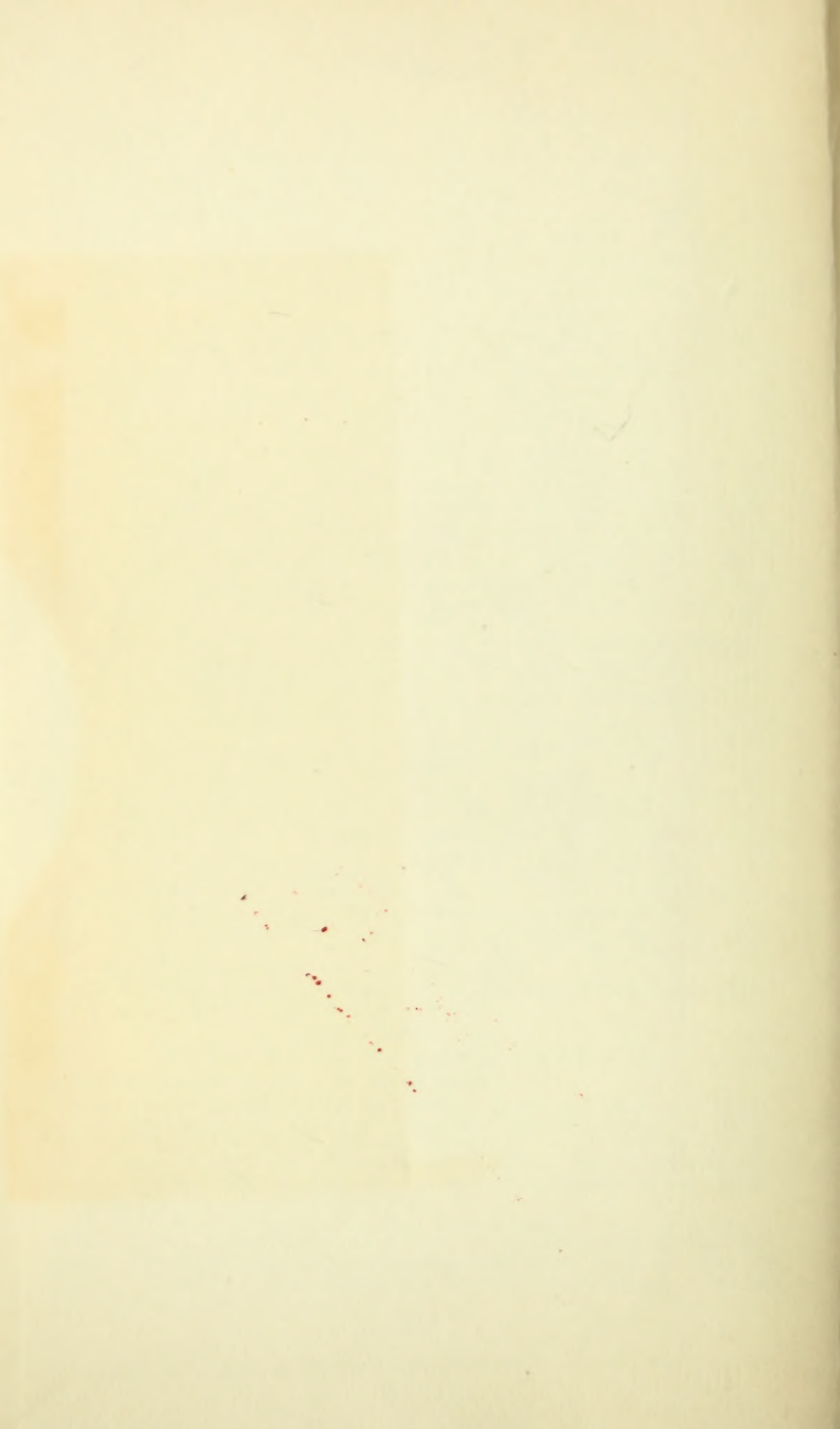
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